

Pioneer



Pioneer VSX AV Receivers 2013

Features

The availabilities of the models differ depending on region.

Overview

- Audio Technologies
- Video Technologies
- Audio Formats & Licenses
- Sophisticated Surround System
- Connectivity
- Network Features
- Advanced Control

Applicable models displayed in icons:	
VSX-1123-K	1123
VSX-923-K/S	923
VSX-828-K/S	828
VSX-v-K/S	823
VSX-523-K/Sv	523
VSX-323-K	323

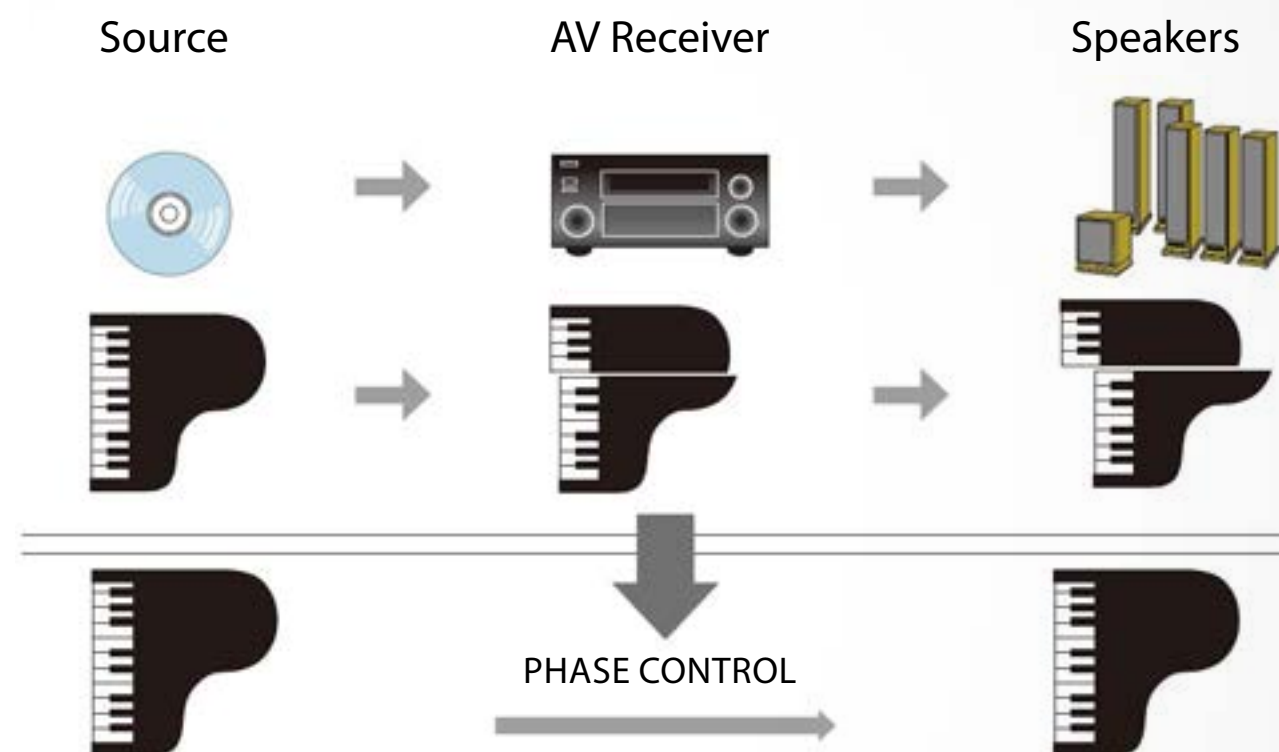
The Pioneer logo is displayed in a red, italicized serif font in the top left corner of the page.

Audio Technologies

The availabilities of the models differ depending on region.

Phase control

The "Phase Control"
Compensates for the Delay
of Low-Frequency Sound

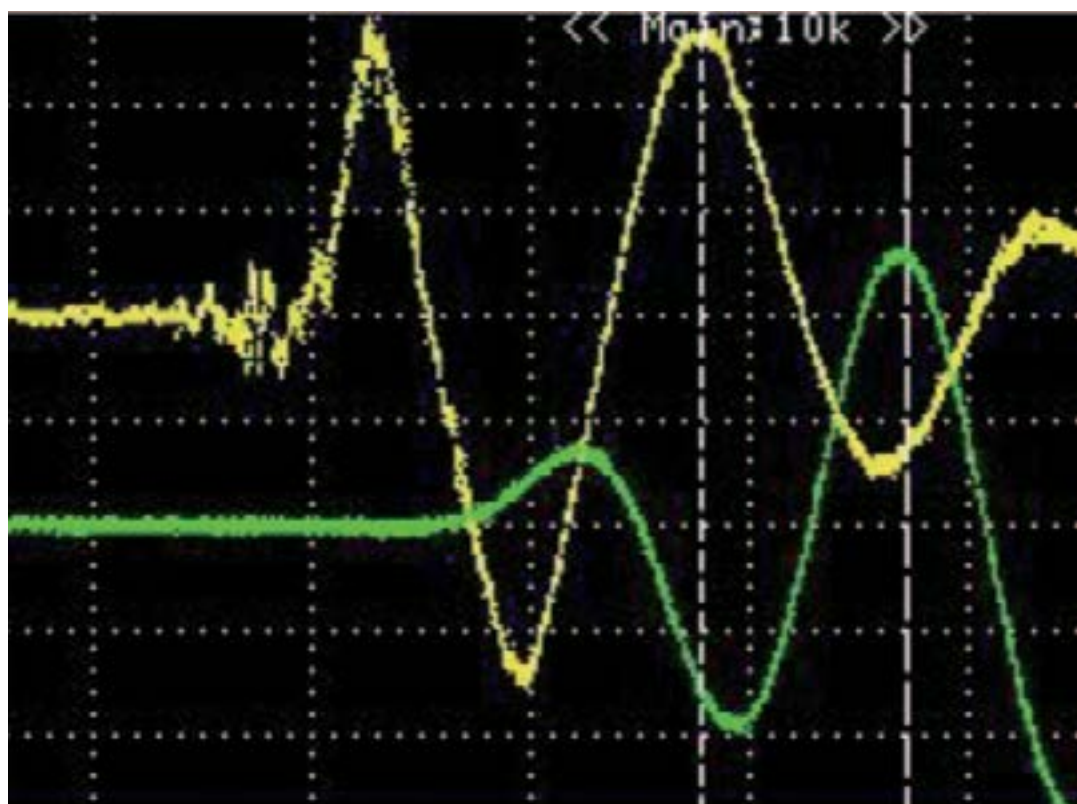


Auto Phase Control Plus

Effect of Phase Control Plus (data comparison)

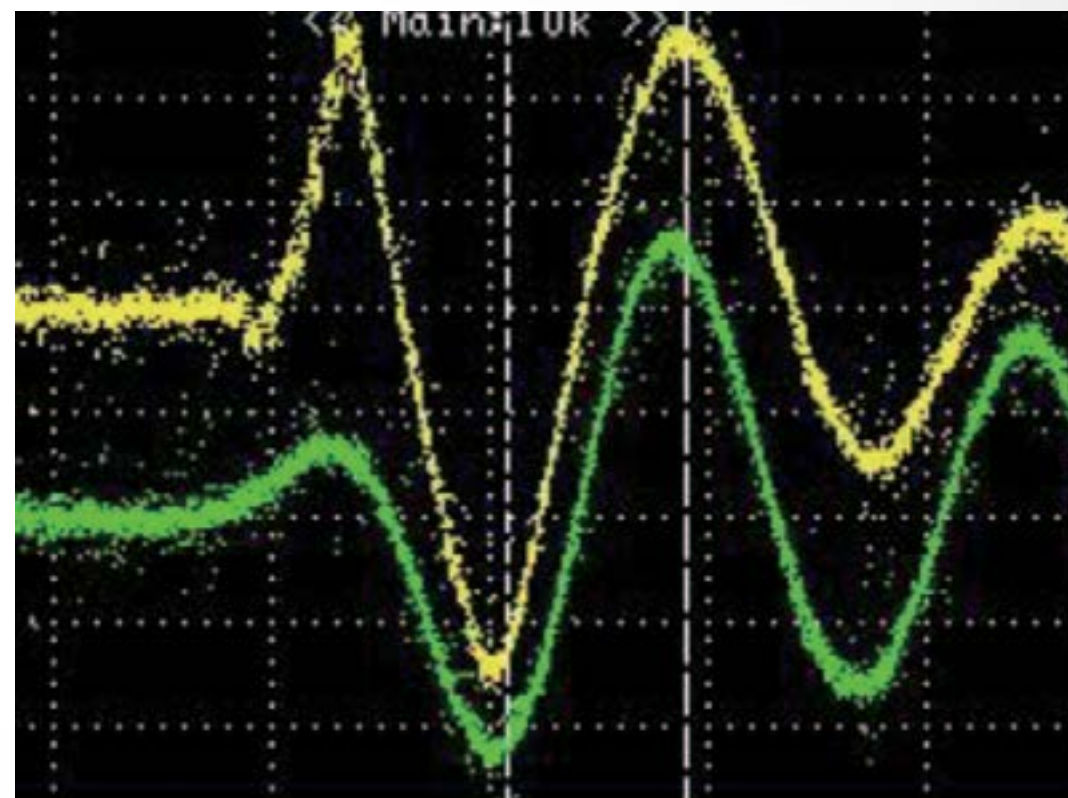
Original disc playback

Delay setting: 0 msec



Playback with Phase Control Plus

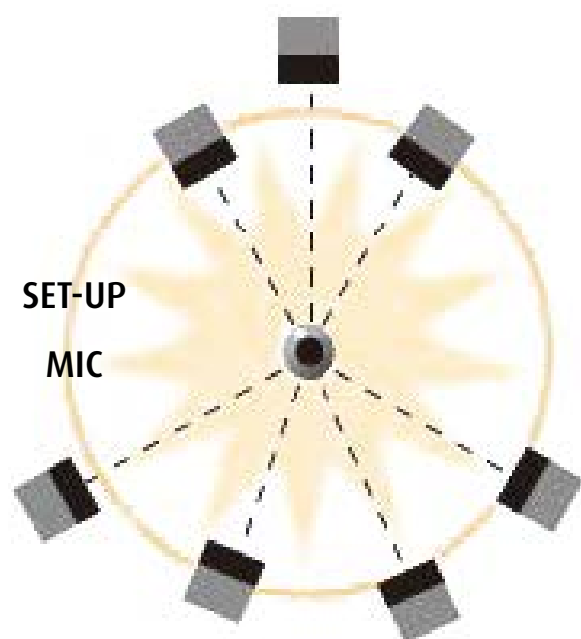
Delay setting: 9 msec



Superior sound provided by compensating the lag in the subwoofer channel on the disc

Acoustic Calibration by MCACC

Effect of Phase Control Plus (data comparison)



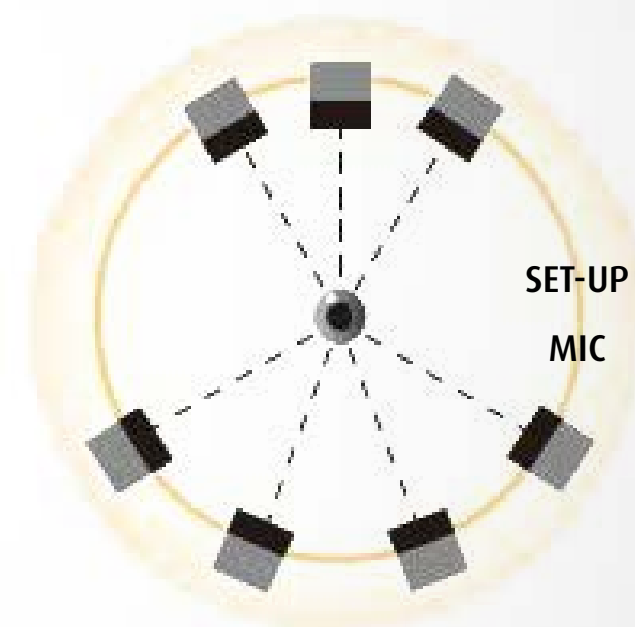
Before Calibration

Speaker distance, sound pressure level, and frequency response are all uneven.

The sound field is automatically measured using the supplied mic.

Calibration

Speaker sizes and number of speakers are automatically detected.

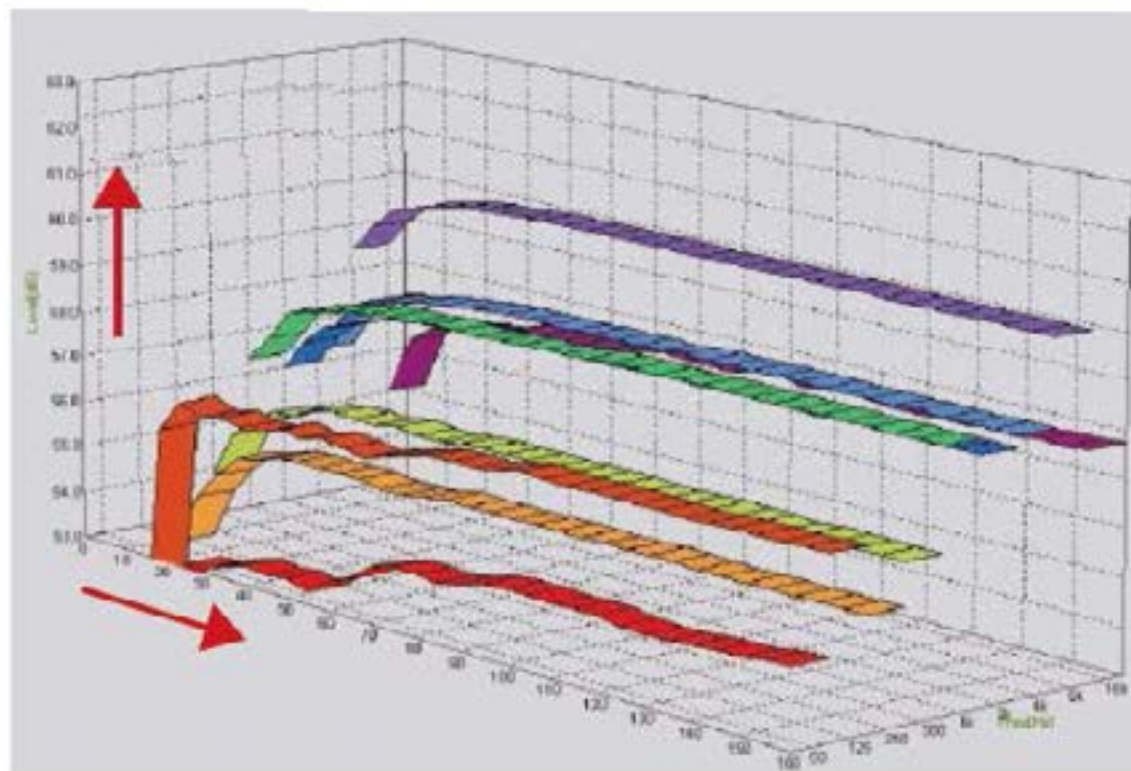


Ater Calibration

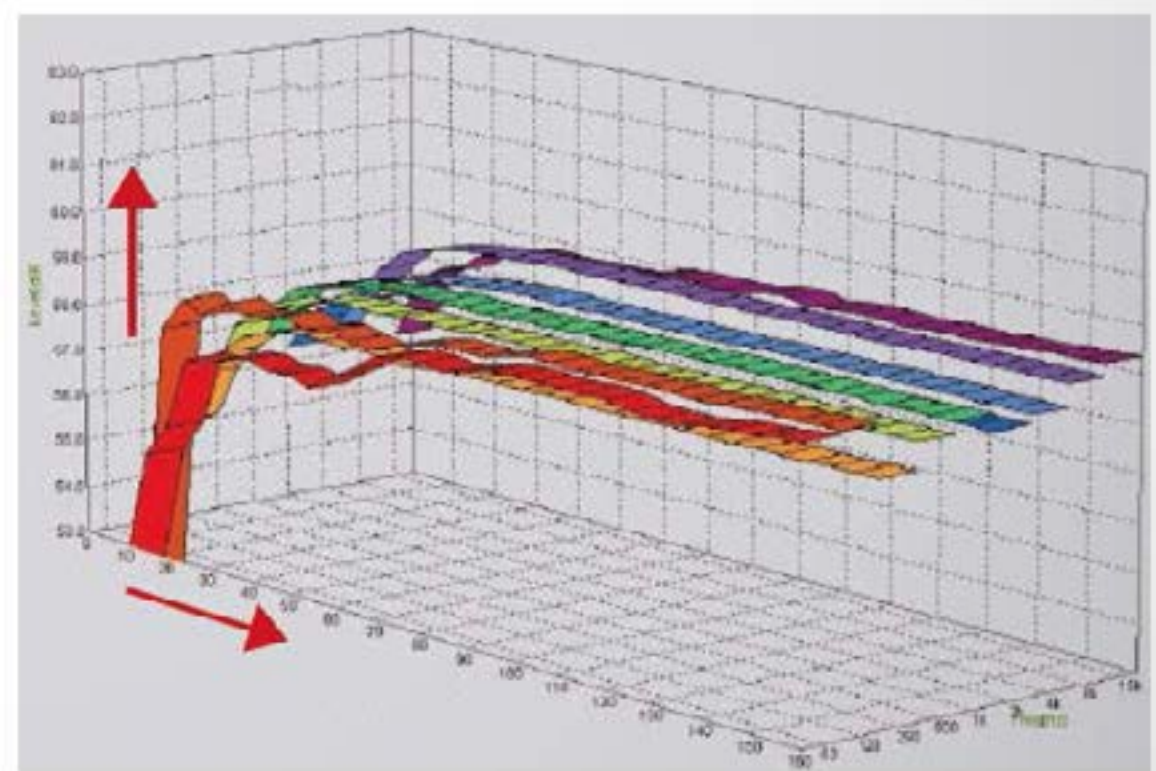
Speaker distance, sound pressure level, and frequency response are all equalized.

MCACC Reverberation Characteristics

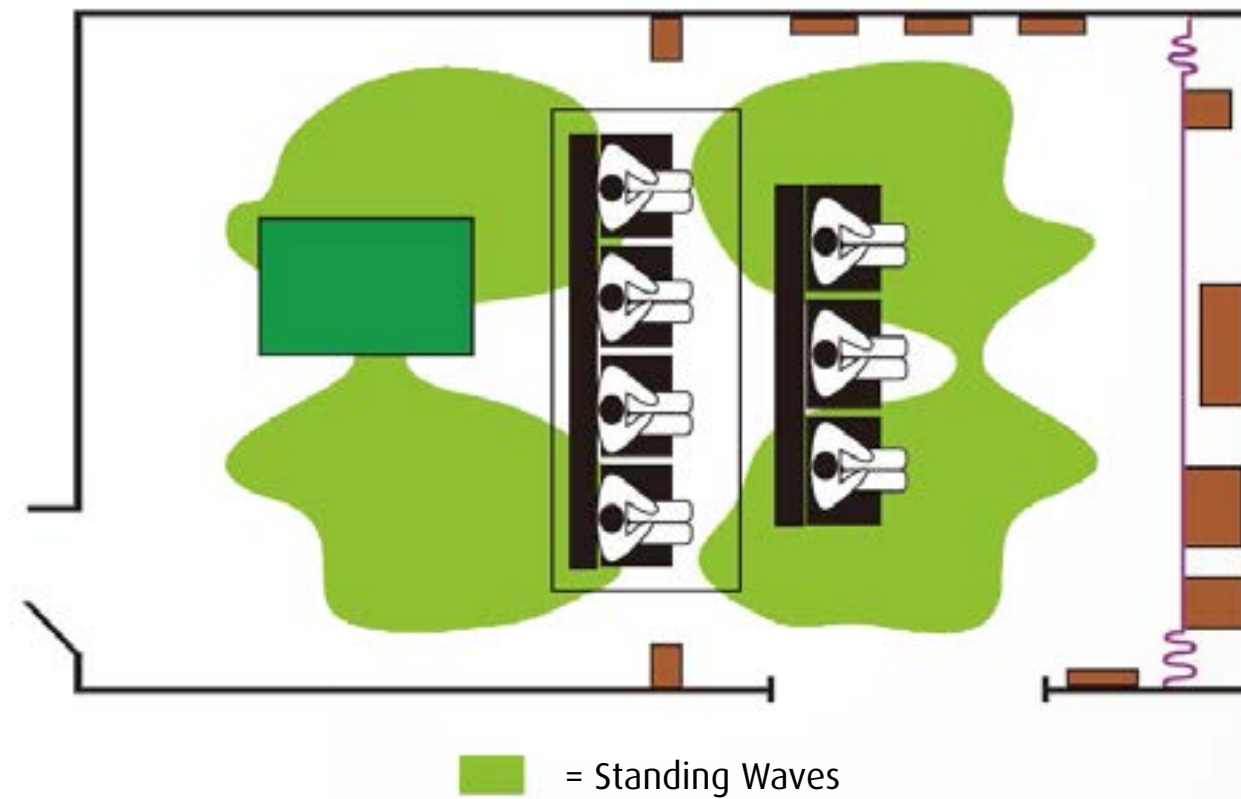
Before Calibration



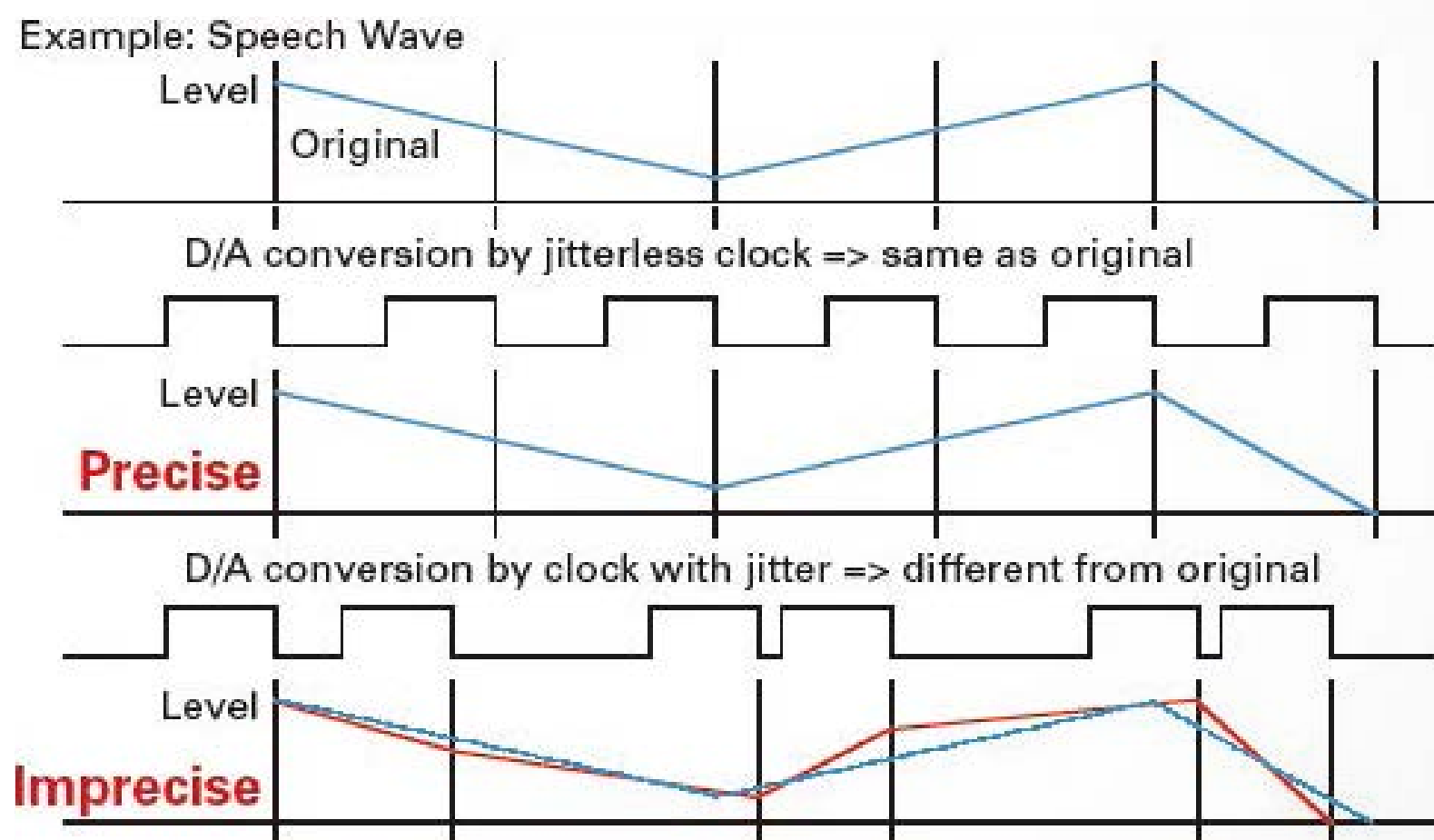
After Calibration



Standing Wave in a Typical Listening Room

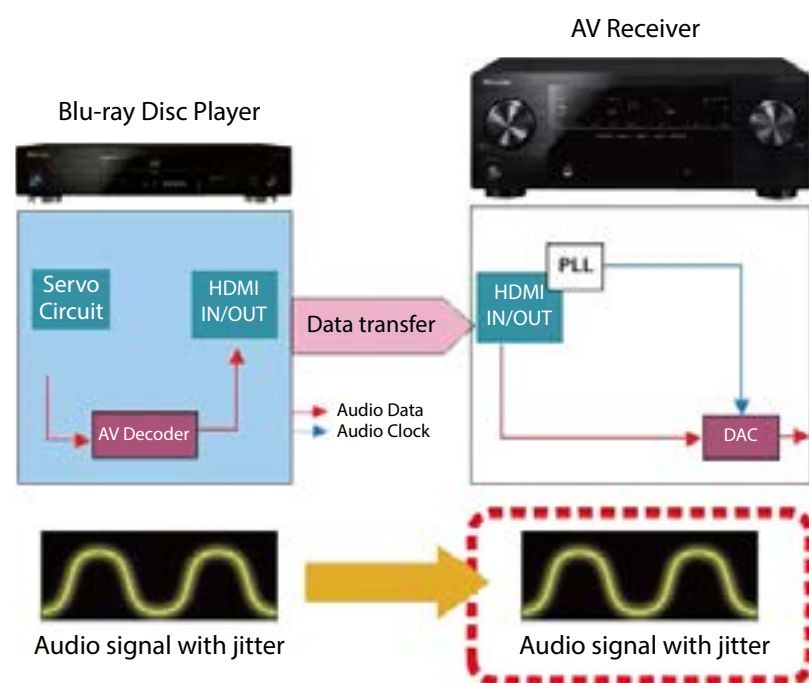


Sound Degradation from Jitter

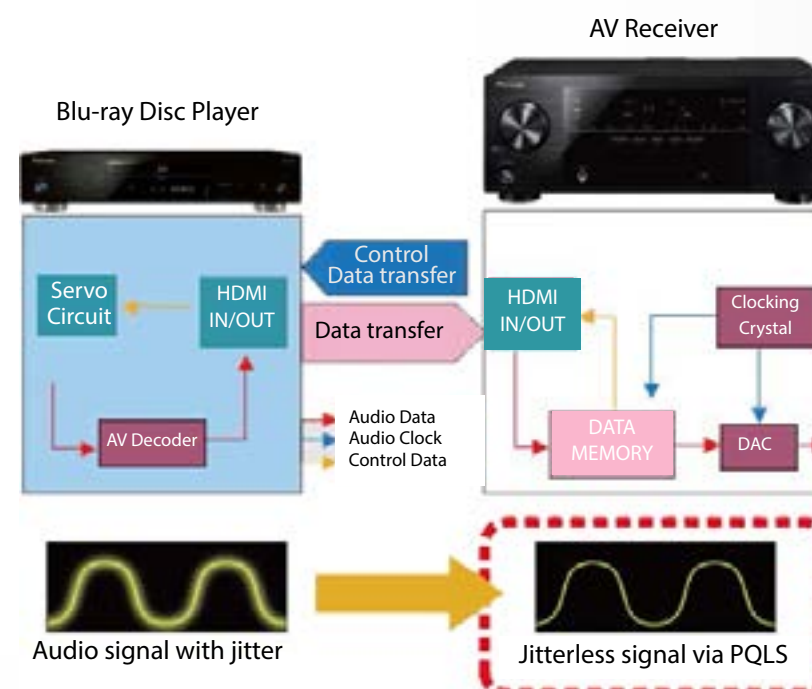


jitter effects on D/A conversion prevents accurate signal conversion

Conventional HDMI Transmission

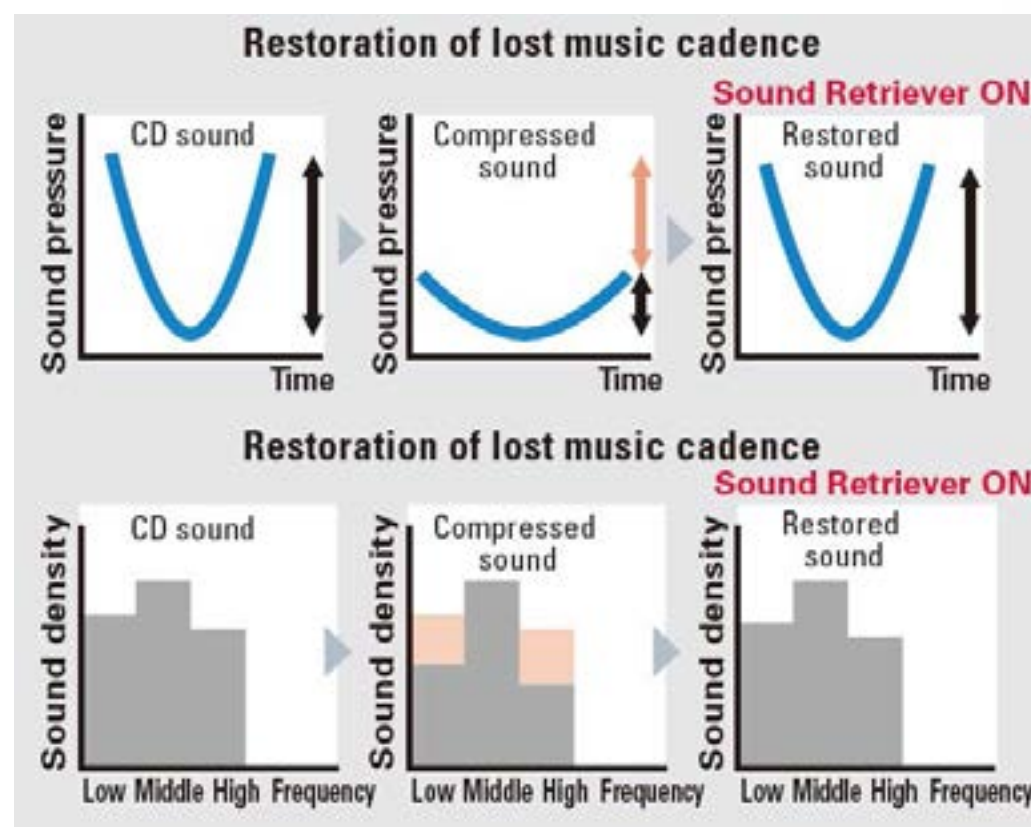


Jitterless Transmission (PQLS)



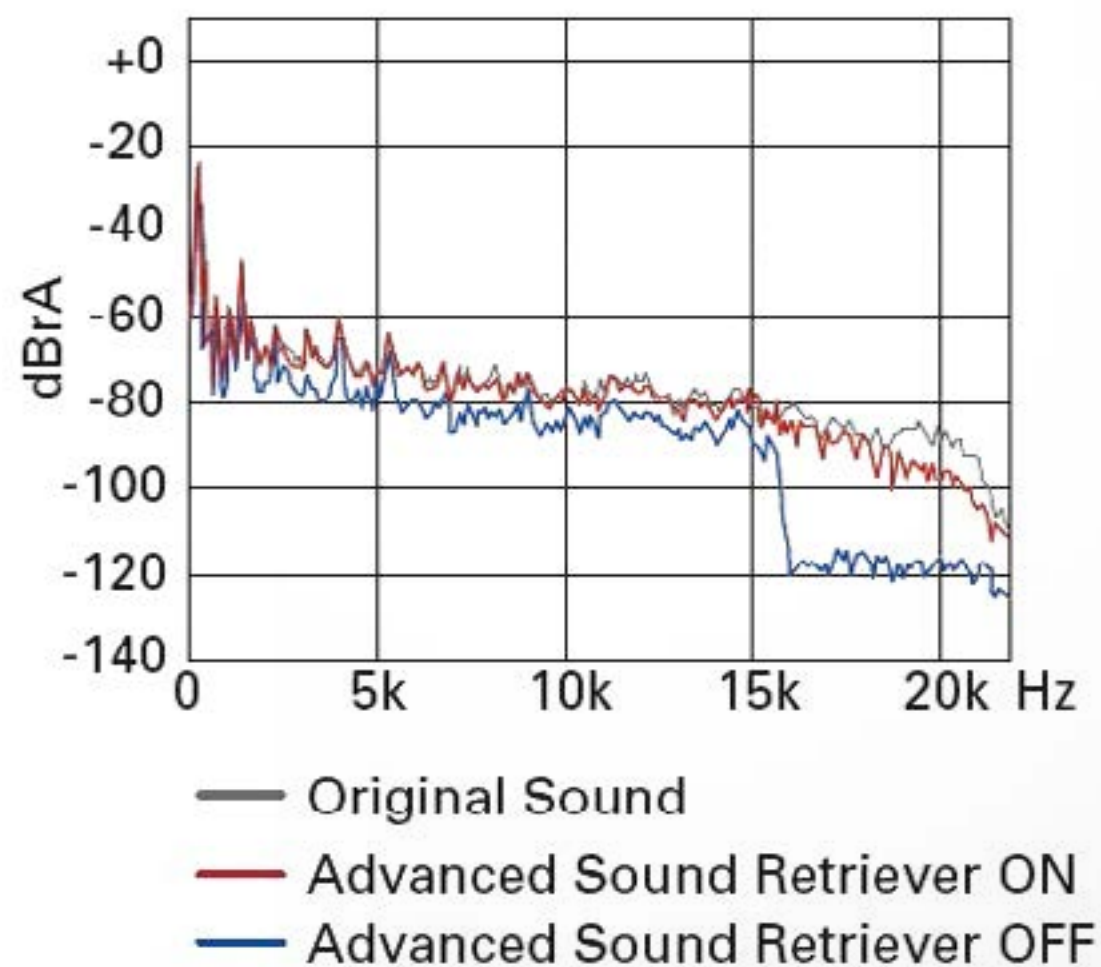
Advanced Sound Retriever

Restoration Image

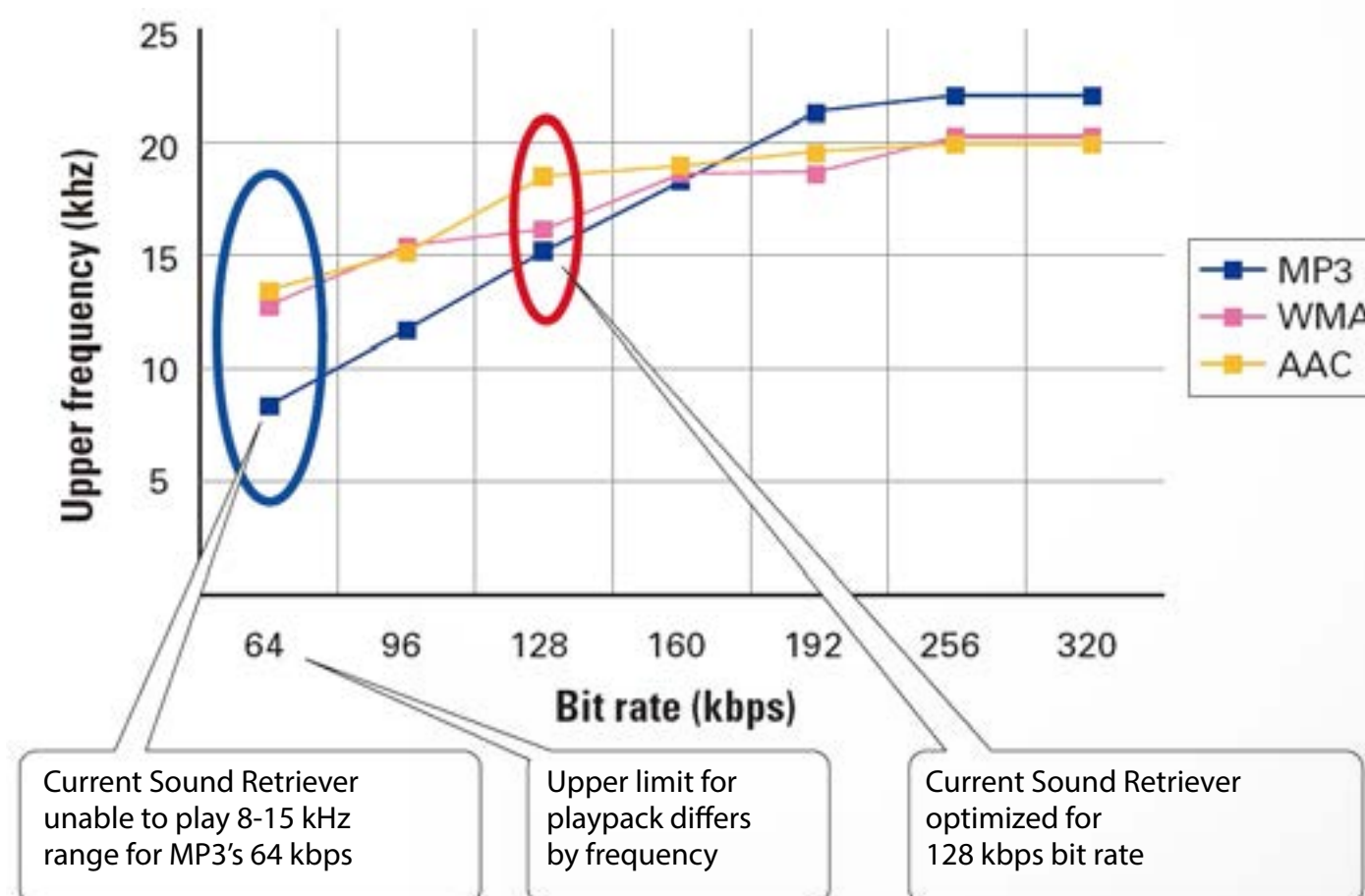


Advanced Sound Retriever

Compensation Effect

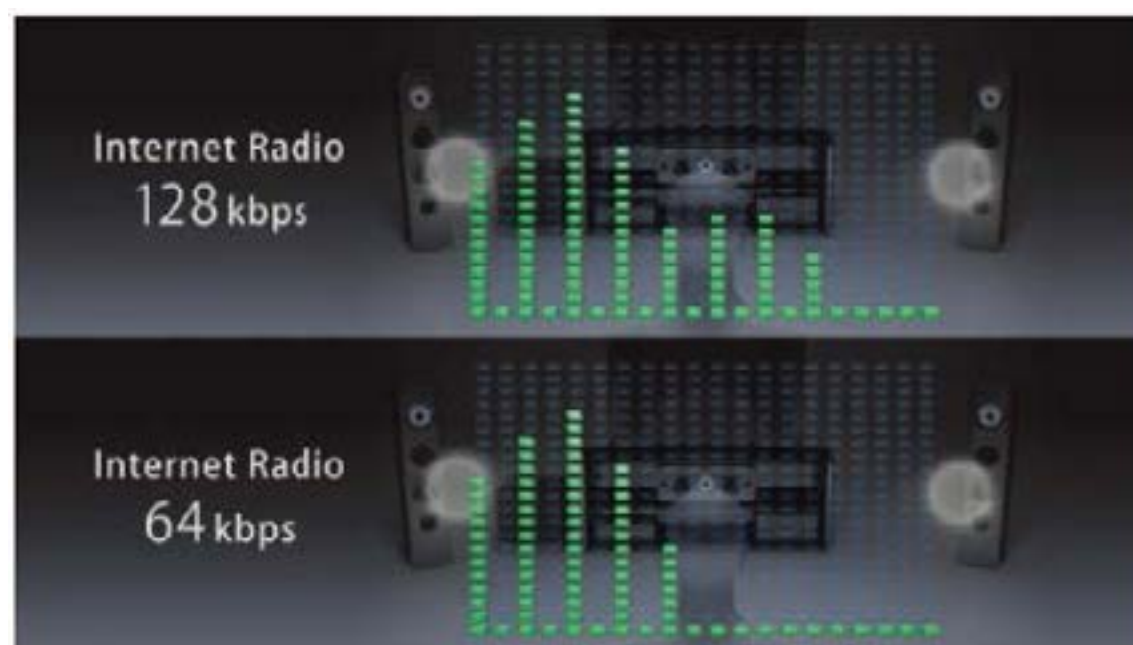


Playback Upper Limit Frequency by Bit Rate

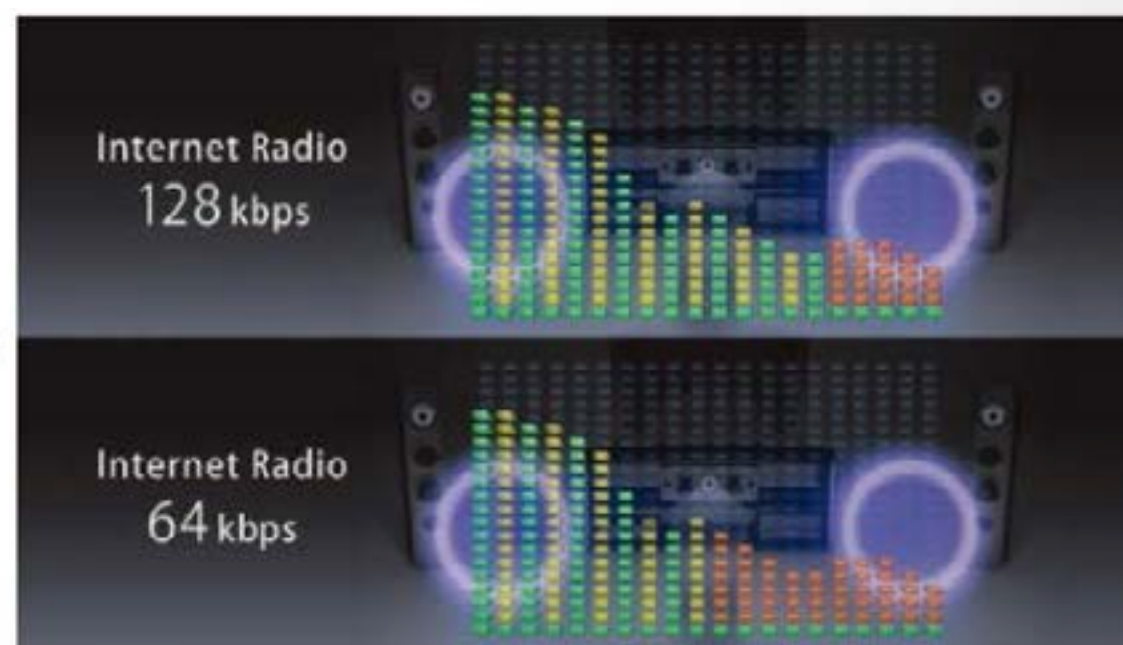


An ideal feature when switching between internet radio stations with different bit-rates.

Compressed Sound



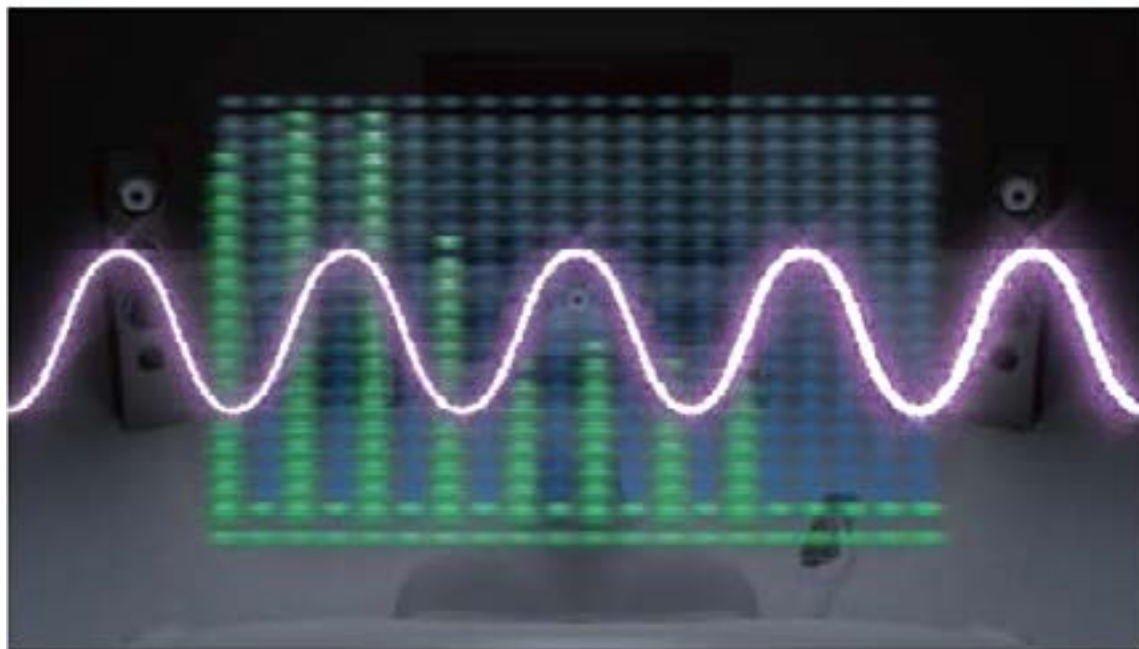
Restored Sound



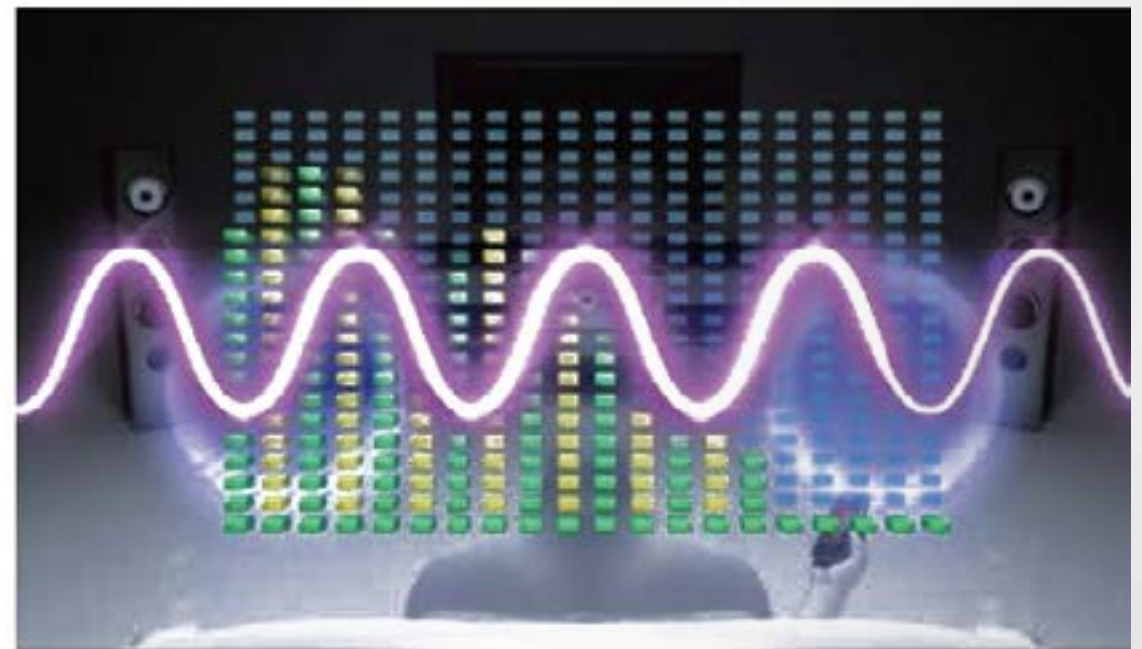
By applying Pioneer's Auto Sound Retriever feature to TV broadcast signals, it adjusts the effects according to the bit rate transferred via HDMI's ARC (Audio Return Channel), letting you enjoy digital TV broadcast in high-definition sound via Pioneer AV receiver.

Pioneer's Sound Retriever AIR is the world's first technology for improving the quality of Bluetooth transmitted sound.

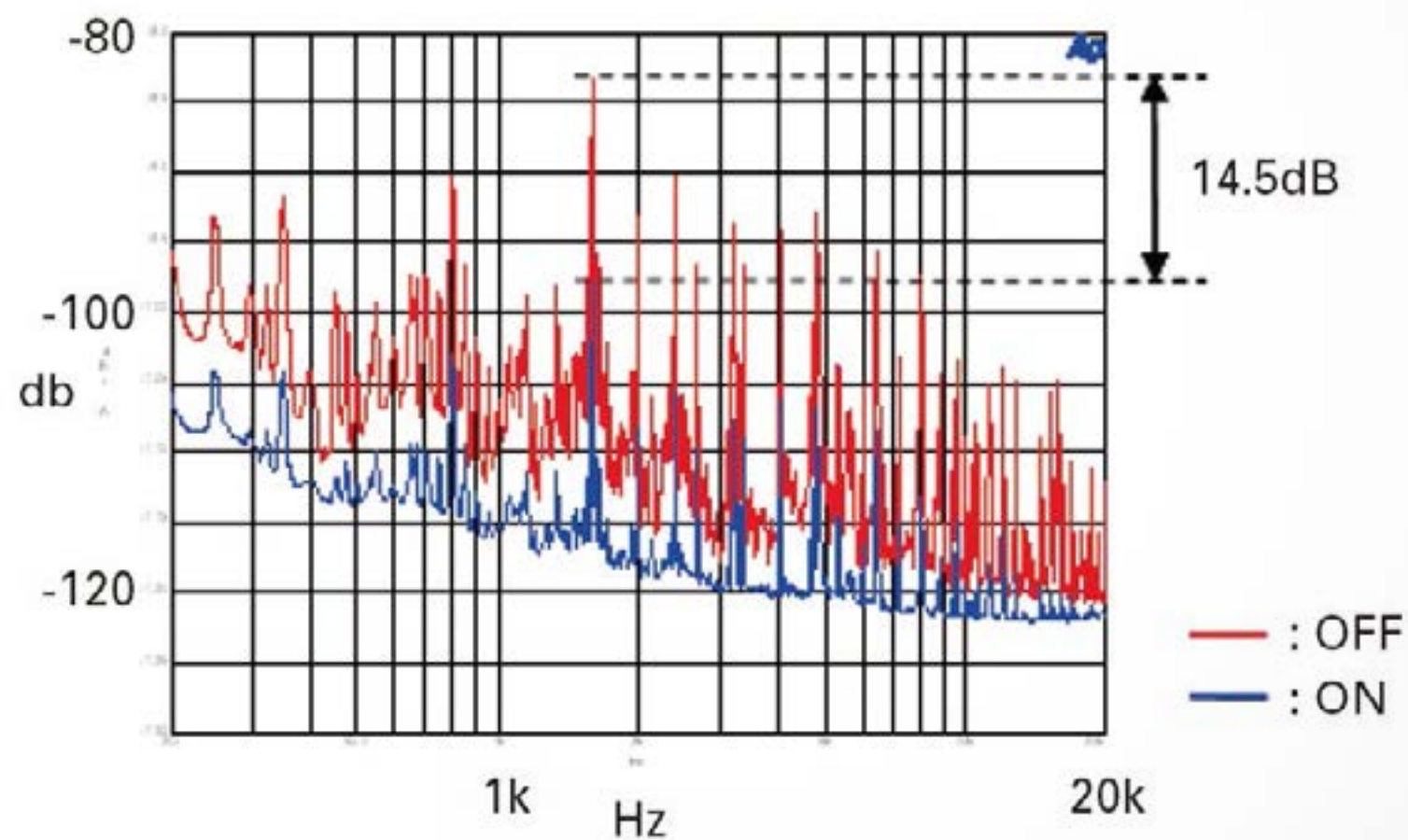
Sound Retriever AIR OFF



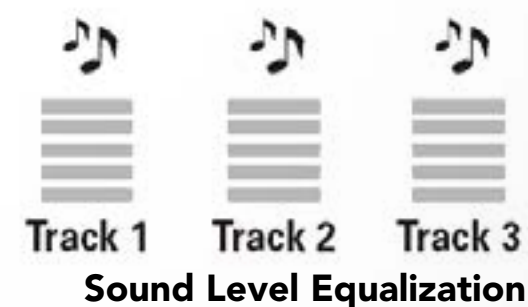
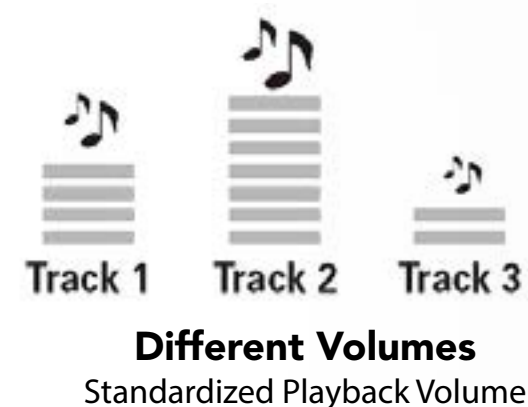
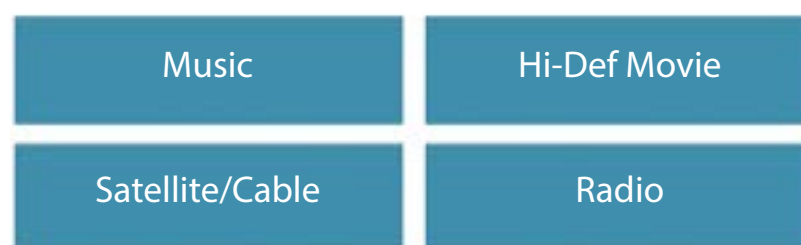
Sound Retriever AIR ON



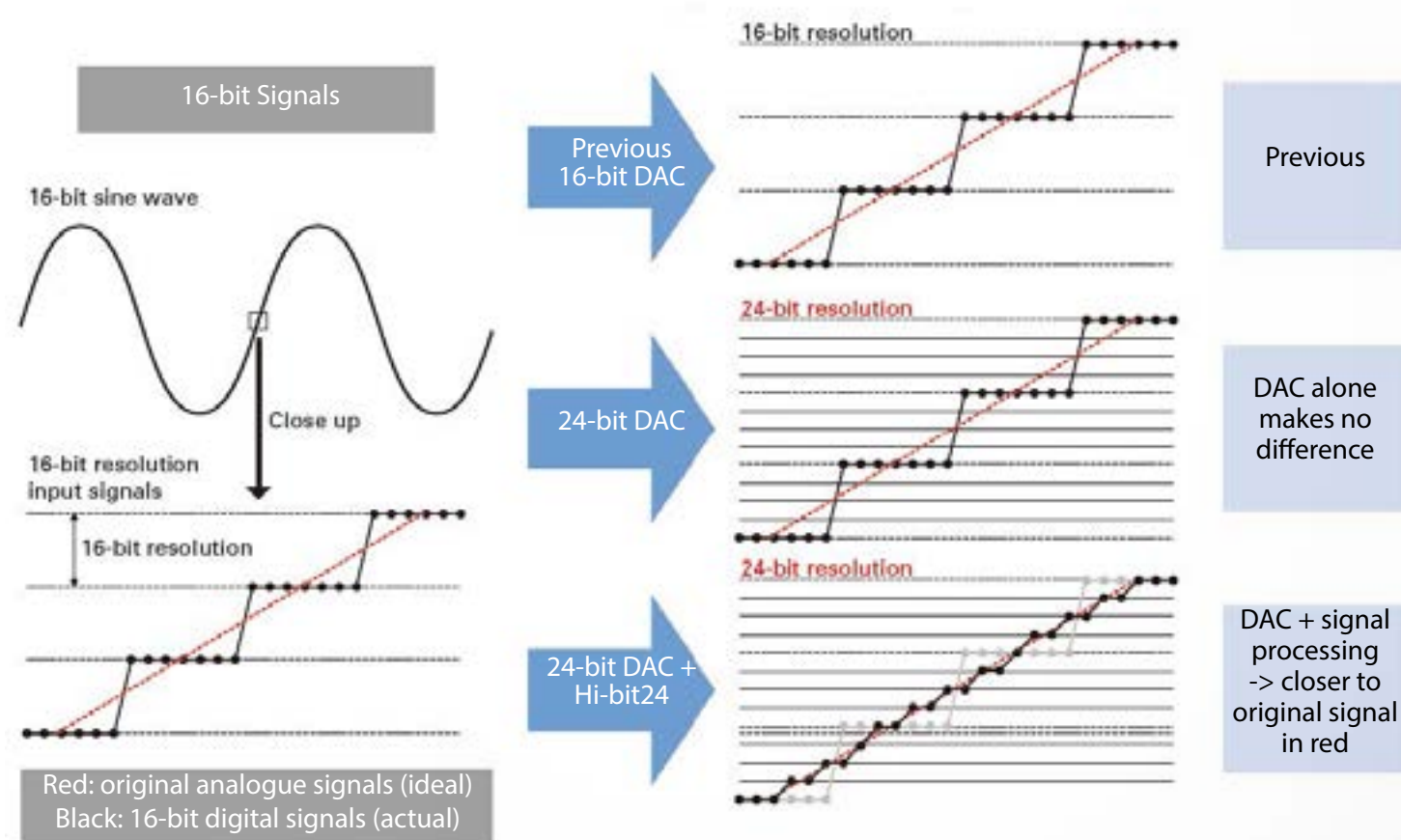
Improvement for S/N Ratio



Auto Level Control for Multi Surround Playback



Effects of Bit Expansion Processing



Bit expansion processing required to bring out the real performance from 24-bit DAC

Pioneer



Video Technologies

The availabilities of the models differ depending on region.

4K Ultra HD Pass Through lets you take advantage of the highest quality video source, by passing through 4K signals for viewing on a compatible display.



Compatible Resolutions

3,840 x 2,160 pixels (24 Hz/25 Hz/ 30 Hz)

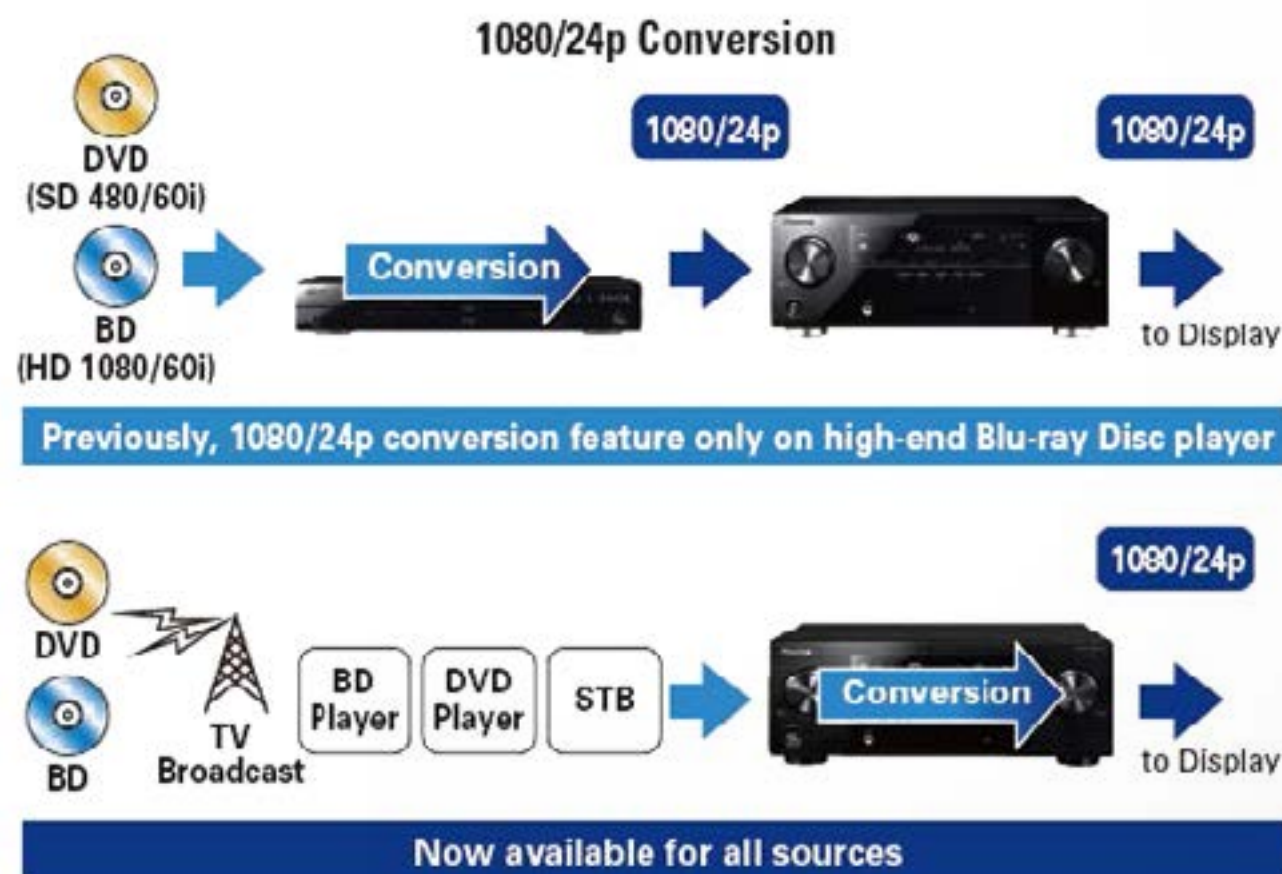
4,096 x 2,160 pixels (24 Hz)

- Transmits 4K x 2K
(Digital Cinema; 4,096 x 2160 pixels 24p) video signals
- Supports Full HD x 4 resolution (24/25/30p)
- Source device and software required to pass through 4K content

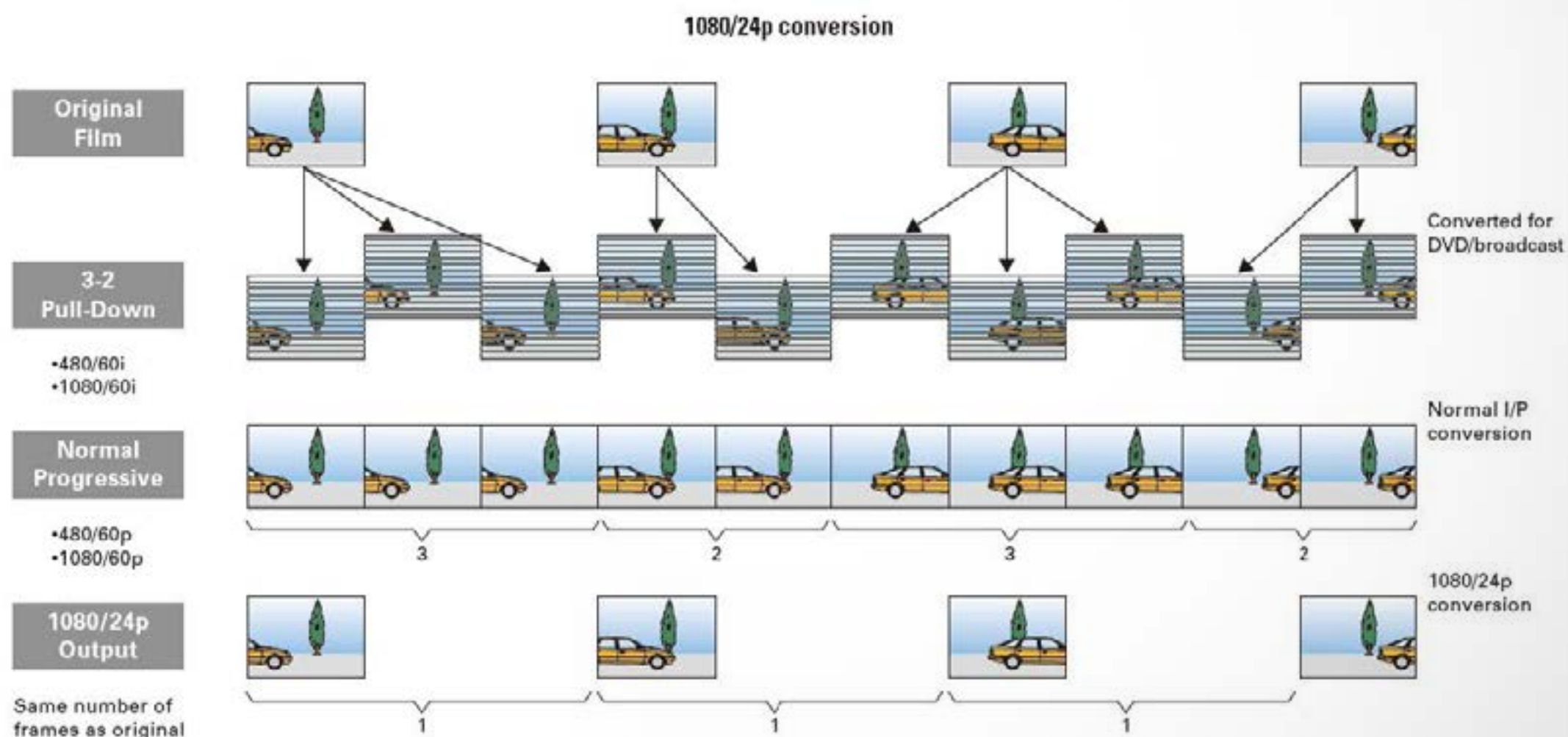
You can enjoy Ultra high definition images at 24 frames-per-second (fps) in 4K output from DVDs and TV broadcasts, even with entry class disc players.



You can enjoy real film-quality images at 24 frames-per-second (fps) in 1080p output from DVDs and TV broadcasts, even with entry class disc players.



1080/24p conversion



It reduces block noise and mosquito noise on low bit rate video content such as YouTube, offering finer and clearer images.

Stream Smoother OFF



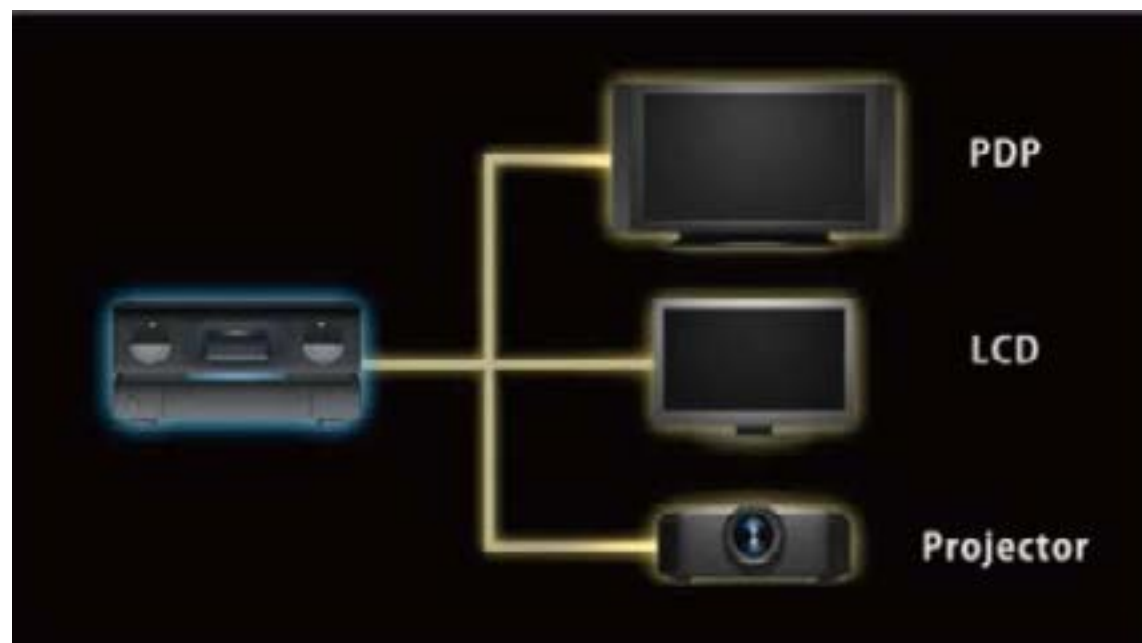
Stream Smoother ON



*For illustration prupose only

Optimizes video signals according to the connected display type or distance of your viewing.

By Display Type



By Distance



PDP Mode 1

Adjusts for optimum image with more detail and less noise

Through



PDP Mode 1



PDP Mode 2

Adjusts for a more natural image

Through



PDP Mode 2



LCD Mode

Adjusts LCD's washed out black for optimum image

Through



LCD Mode



Front Projector Mode

Provides a sharp and vivid image suited for a front projector

Through



Front Projector Mode



Motion Adaptive I/P Conversion

For video content, Motion Adaptive I/P Conversion processes moving images by eliminating conversion errors or noise generation, to deliver high-quality pictures.

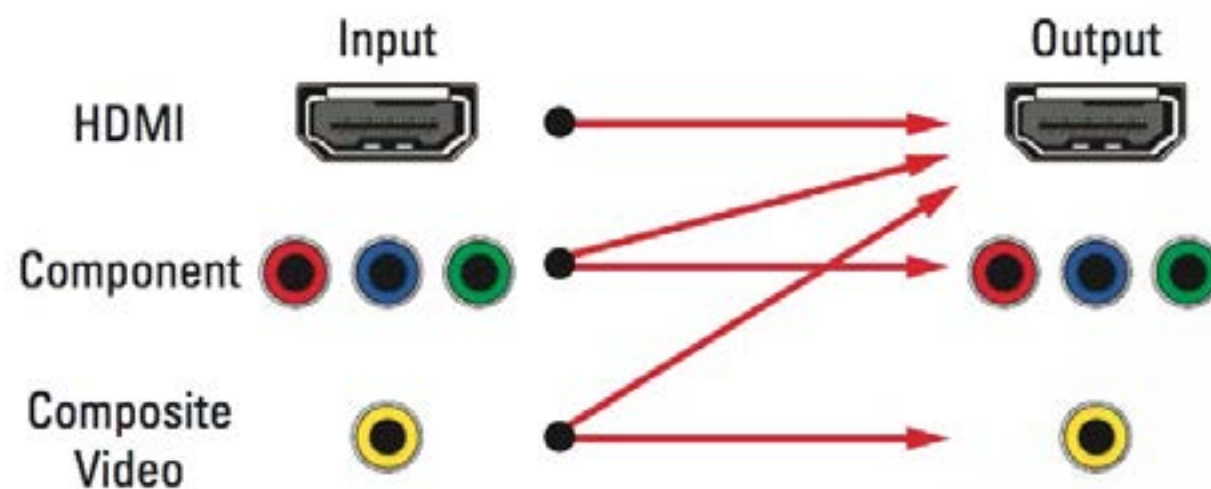
Conventional I/P Conversion



Motion Adaptive I/P Conversion



Composite or component input video signals can be converted for HDMI output to view on a compatible display.



Gaussian Noise



Grainy image



Clear Image

Block Noise



Mosaic-Like Artifacts



Clear Image

Mosquito Noise

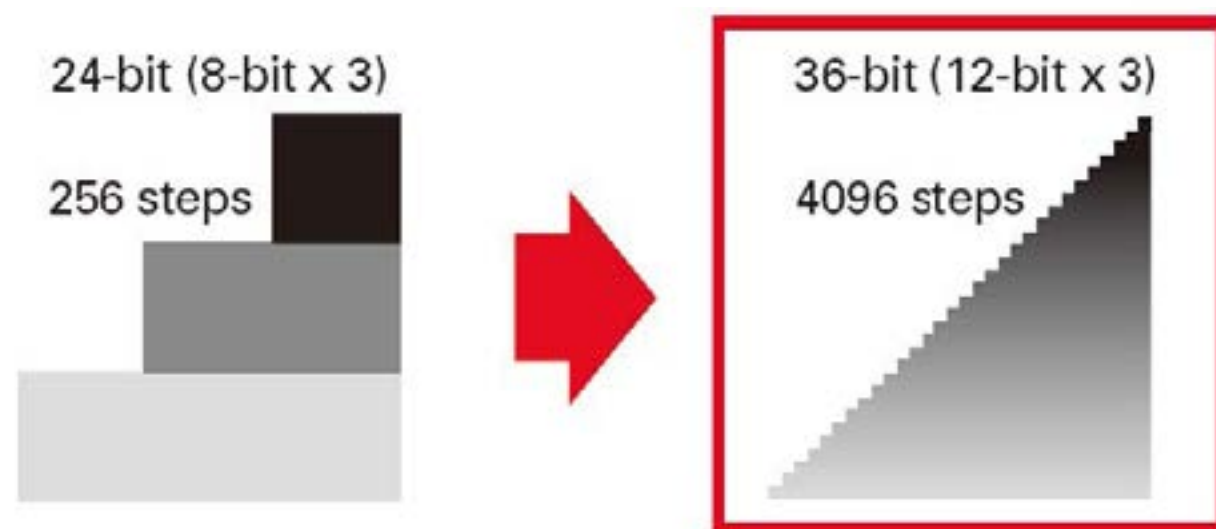


Hazy Edge



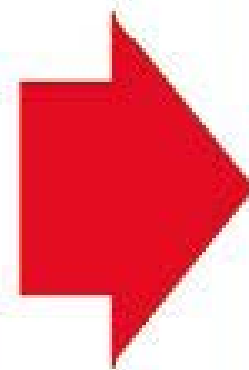
Clear Image

Smooth gradation steps with more accurate precision of brightness and colour information.



Smoother Images

24-bit 16 million colours



36-bit 68,719 million colours









Audio Formats & Licenses

The availabilities of the models differ depending on region.

High Definition Audio Formats

DTS-HD Master Audio and Dolby TrueHD provide sound that is bit-for-bit identical to the studio master, delivering sound at extremely high variable bit rates far exceeding standard DVDs.

Compressed		Uncompressed
Lossless	Lossy	
Dolby TrueHD 	Dolby Digital Plus 	Linear PCM Uncompressed 48 kHz/ 16-bit audio format similar to CD, but with higher sampling frequencies and quantization. No decoding required.
DTS-HD Master Audio 	DTS-HD High Resolution Audio 	

Comparison of High Definition Audio Formats

The AV receivers can play high-quality DSD (Direct-Stream Digital) audio files from a memory stick, via the front USB input. Previously, DSD could only be played back on SACD players. Now, you can enjoy the superior sound without any special players.

Playback Formats (USB/Network)

Format	Extension	Stream		VSX-1123/VSX-923/VSX-828/VSX-528
MP3*	.mp3	MPEG-1Audio Layer-3	Sampling Frequency	32/44.1/48 kHz
			Quantization Bit Rate	16 bit
			Channels	2
			Bit Rate	8-320 kbps
			VBR/CBR	Supported/Supported
WAV	.wav	WAV	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
			Quantization Bit Rate	16 bit/24 bit
			Channels	2
WMA	.wma	WMA2/7/8/9	Sampling Frequency	32/44.1/48 kHz
			Quantization Bit Rate	16 bit
			Channels	2
			Bit Rate	5-320 kbps
			VBR/CBR	Supported/Supported
AAC	.m4a .aac .3gp .3g2	MPEG-4 AAC LC MPEG-4 HE AAC (aacPlus v 1/2)	Sampling Frequency	32/44.1/48 kHz
			Quantization Bit Rate	16 bit
			Channels	2
			Bit Rate	16-320 kbps
			VBR/CBR	Supported/Supported
Apple Lossless	.m4a .mp4	ALAC	Sampling Frequency	32/44.1/48/88.2/96 kHz
			Quantization Bit Rate	16 bit/24 bit
			Channels	2
FLAC	.flac	FLAC	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
			Quantization Bit Rate	16 bit/24 bit
			Channels	2
AIFF	.aif .aiff	AIFF	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
			Quantization Bit Rate	16 bit/24 bit
			Channels	2
DSD**	.dff .dsf	DSDIFF DSF	Sampling Frequency	2.8224 MHz
			Quantization Bit Rate	1 bit
			Channels	2

* MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson Multimedia

** VSX-1123 only, via USB

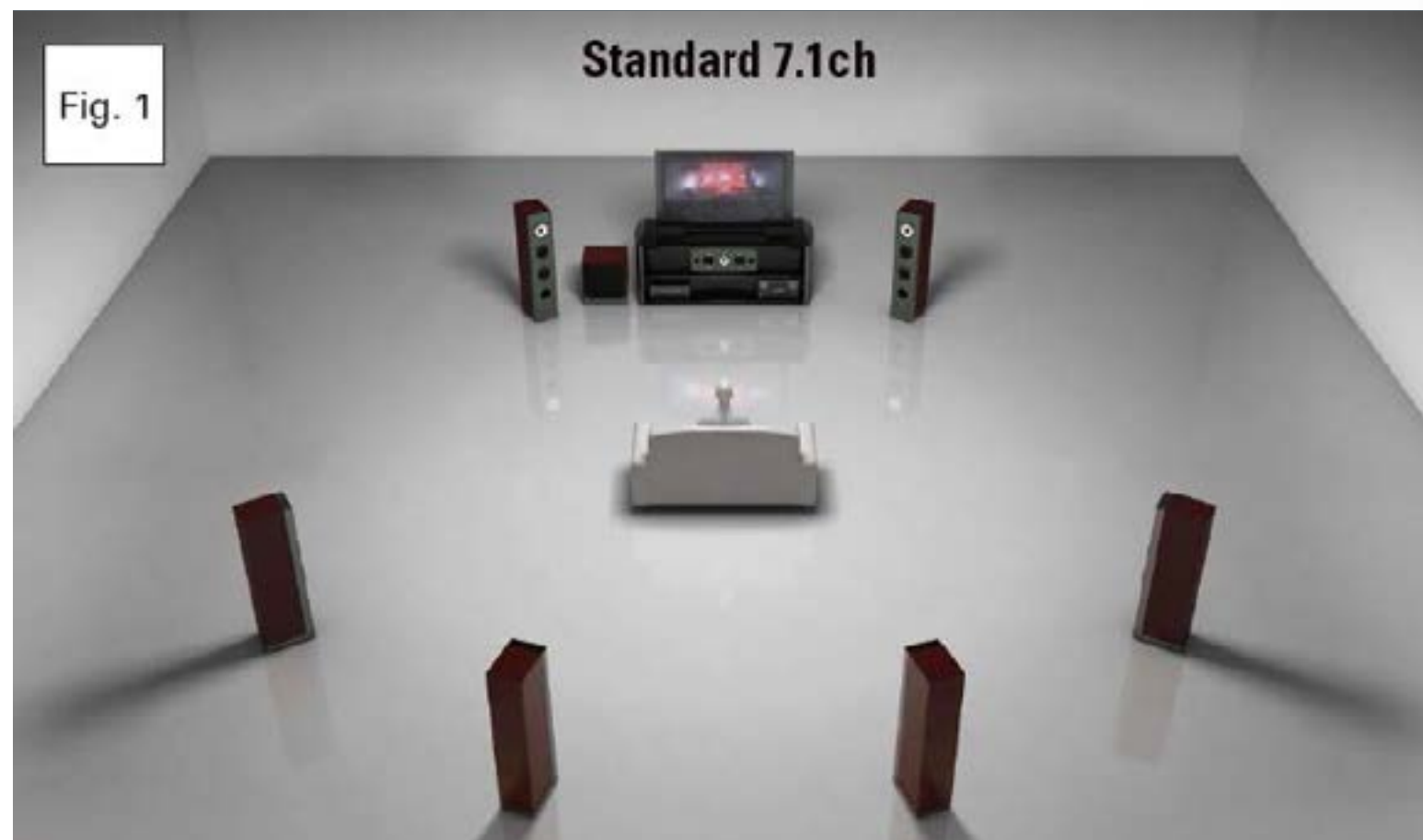
Pioneer

Sophisticated Surround System

The availabilities of the models differ depending on region.



Speaker Layout example (7.1ch)



Speaker Layout example (Wide Surround Mode)



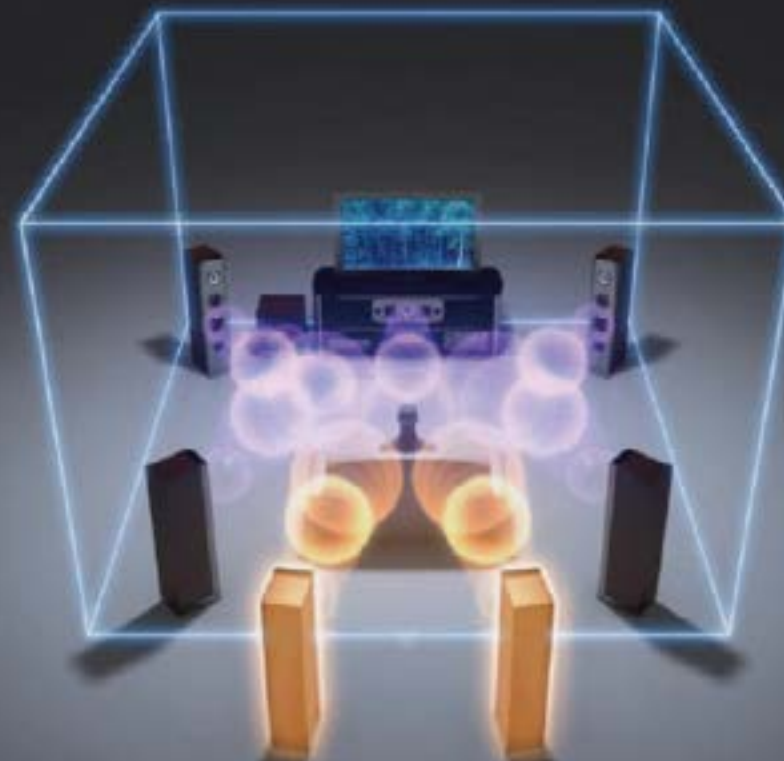
Speaker Layout example (Dolby Pro Logic IIz)



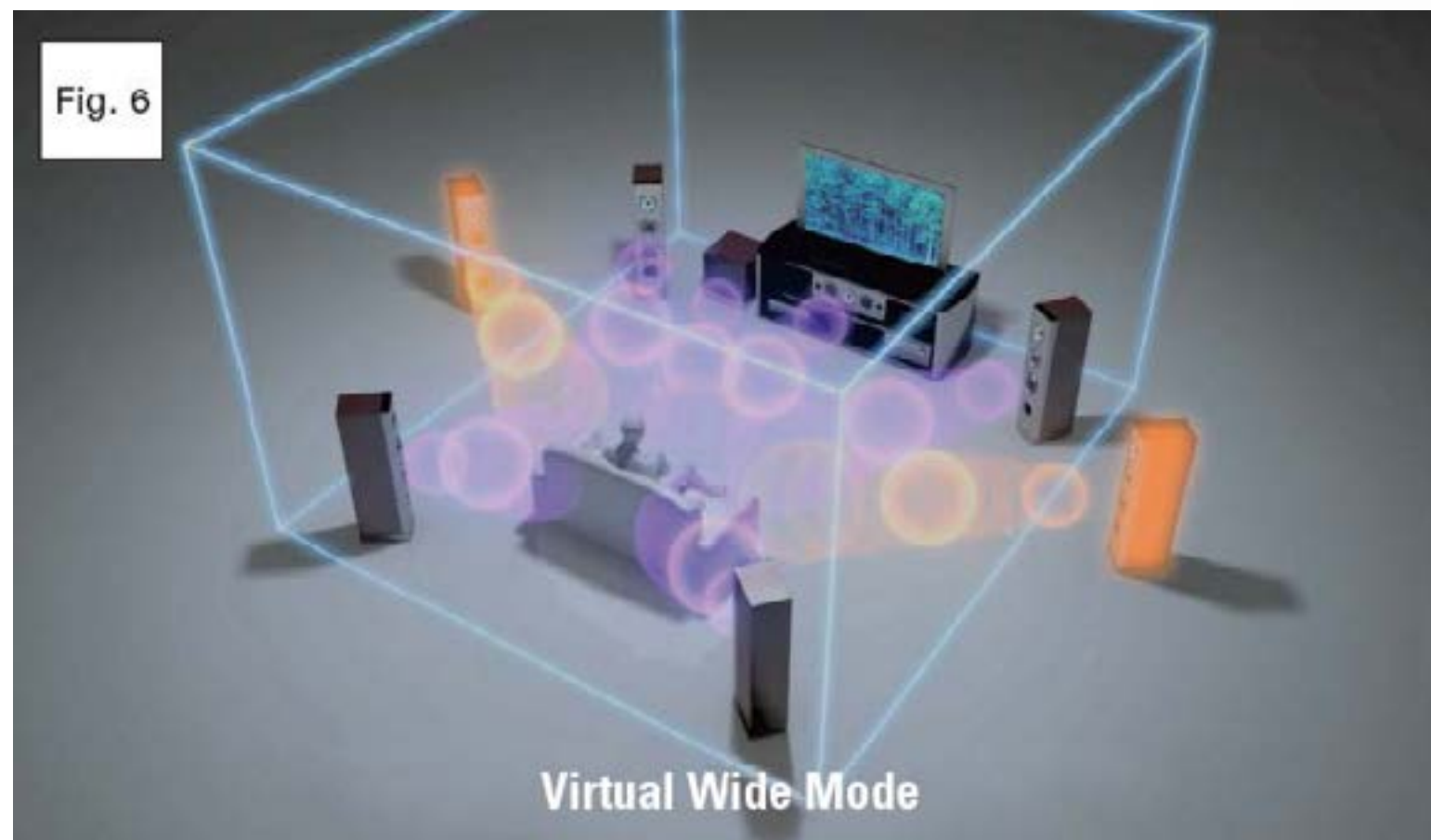
Lets you enjoy full surround sound
without placing extra speakers.



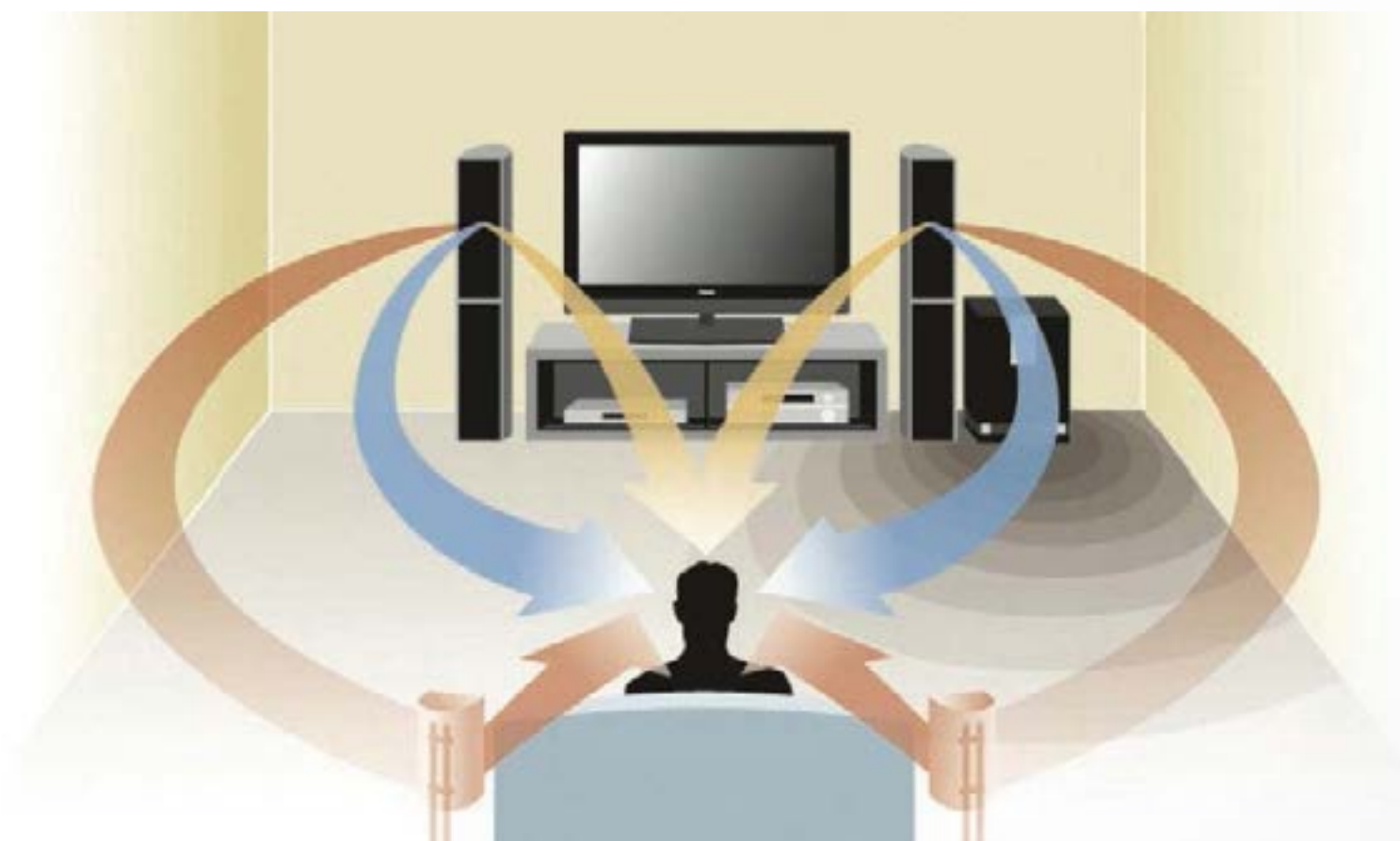
Fig. 5



Virtual Surround Back Mode



With Front Stage Surround Advance, you can enjoy surround sound coming from only the front speakers and the subwoofer.



Pioneer



Connectivity

The availabilities of the models differ depending on region.

ARC (Audio Return Channel)

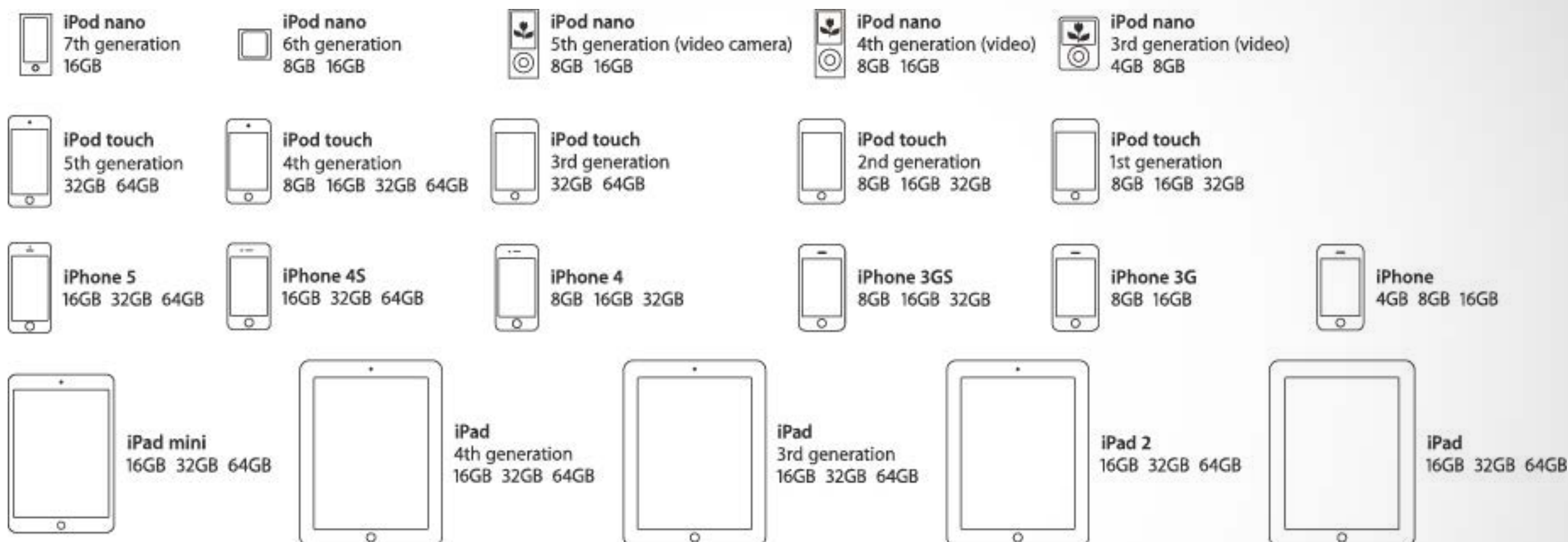
Not ARC Compatible



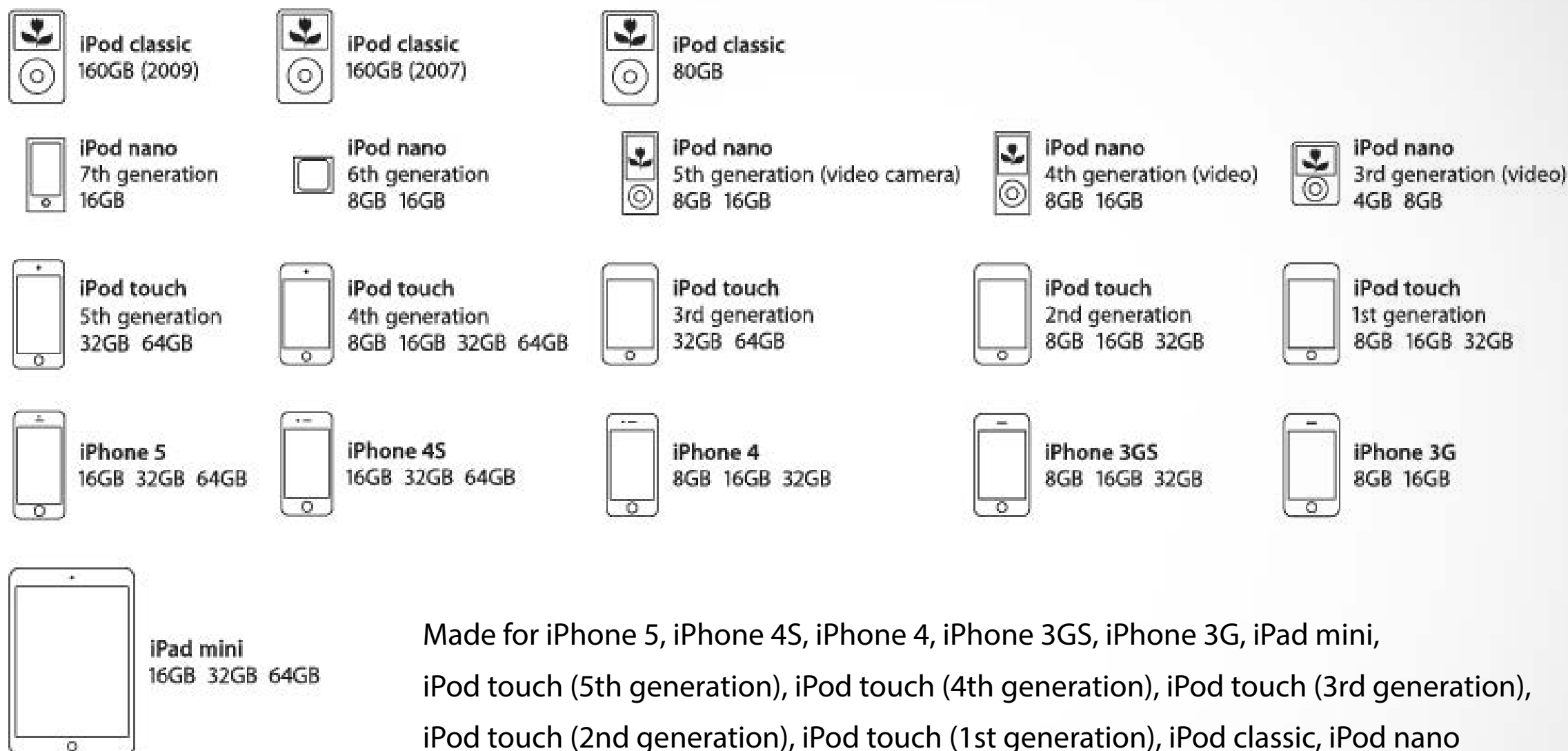
ARC Compatible
(Both TV and AV Receiver)







Made for iPhone 5, iPhone 4S, iPhone 4, iPhone 3GS, iPhone 3G, iPhone, iPad (4th generation), iPad mini, iPad (3rd generation), iPad 2, iPod touch (5th generation), iPod touch (4th generation), iPod touch (3rd generation), iPod touch (2nd generation), iPod touch (1st generation), iPod nano (7th generation), iPod nano (6th generation), iPod nano (5th generation), iPod nano (4th generation), iPod nano (3rd generation).

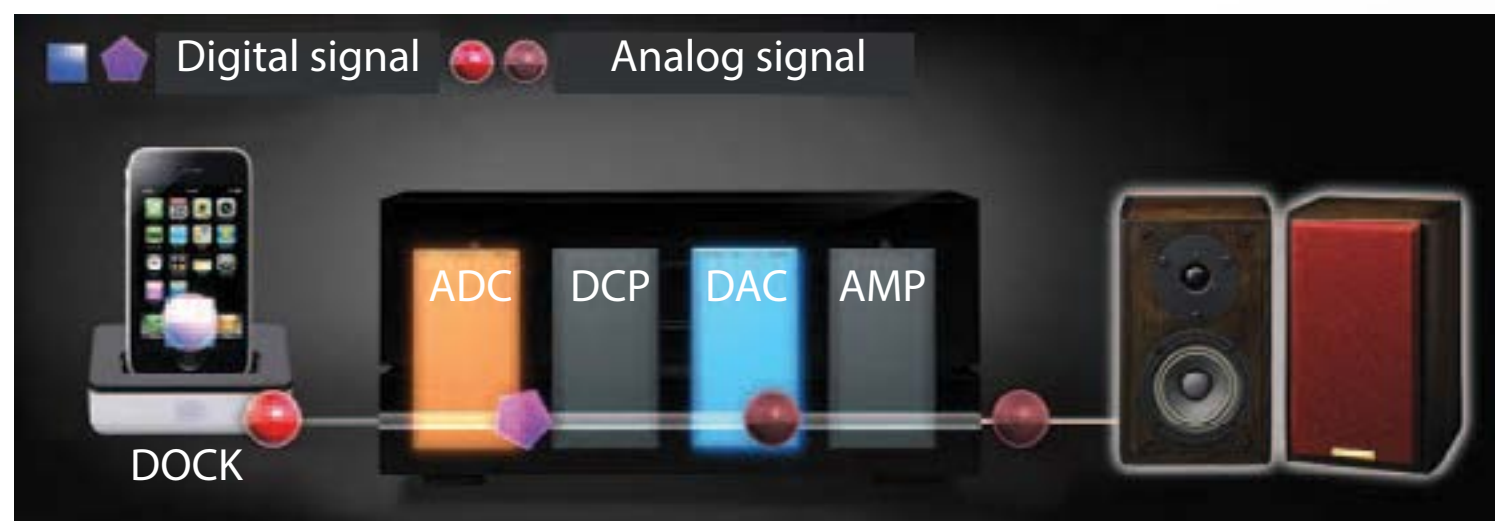


Made for iPhone 5, iPhone 4S, iPhone 4, iPhone 3GS, iPhone 3G, iPad mini, iPod touch (5th generation), iPod touch (4th generation), iPod touch (3rd generation), iPod touch (2nd generation), iPod touch (1st generation), iPod classic, iPod nano (7th generation), iPod nano (6th generation), iPod nano (5th generation), iPod nano (4th generation), iPod nano (3rd generation).

The audio signals are directly transferred to the AV receiver's high-performance DAC, offering superior sound compared to analogue connections.



Digital Audio (previous)



Analogue Audio (previous)

Connection Comparison

iPod/iPhone/iPad Video Playback







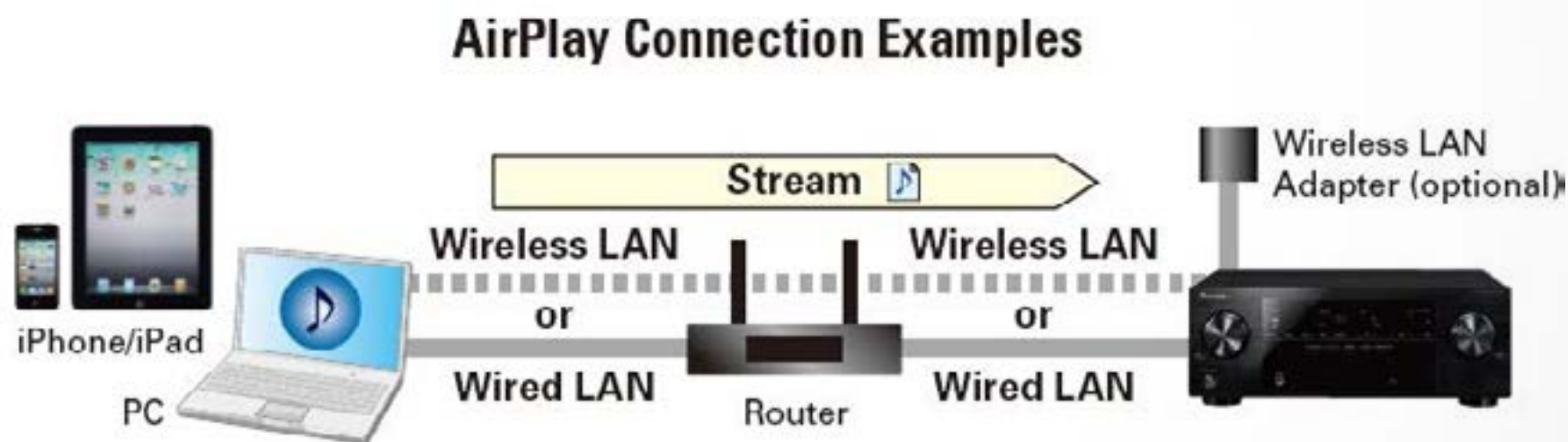
Pioneer



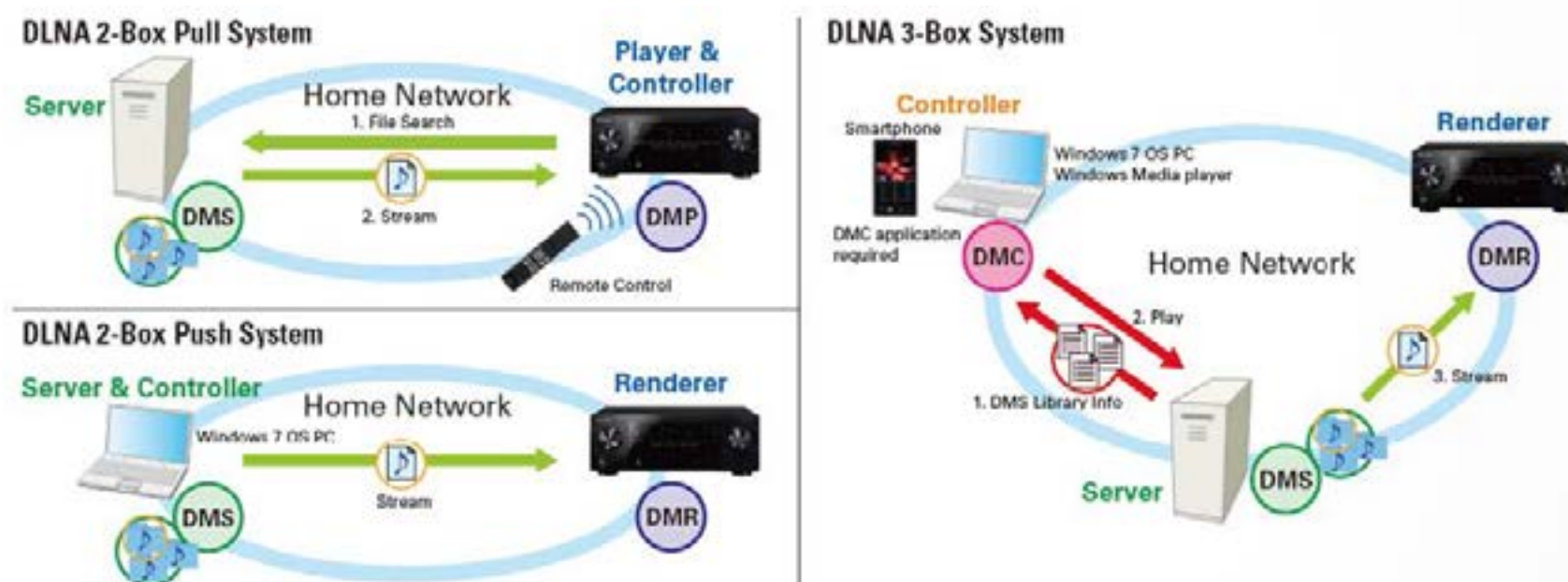
Network Features

The availabilities of the models differ depending on region.

AirPlay — Enthusiasts have complete access, control and playback of their entire iTunes music library wirelessly through their AV receiver.



AirPlay — Enthusiasts have complete access, control and playback of their entire iTunes music library wirelessly through their AV receiver.



Digital Media Server (DMS):

Stores and distributes content to DMP/DMR

Example: PC

Digital Media Player (DMP):

Finds and plays content on DMS

Example: TV, stereo/home theatre, game console

Digital Media Controller (DMC):

Finds content on DMS for playback on DMR

Example: internet tablet, Wi-Fi digital camera, PDA

Digital Media Renderer (DMR):

Plays content received from DMC, which finds content on DMS

Example: TV, AV receiver, remote speakers

Compatible with Windows 8



Compatible with Windows 7



High-Quality Audio Streaming

Internet Radio (vTuner)

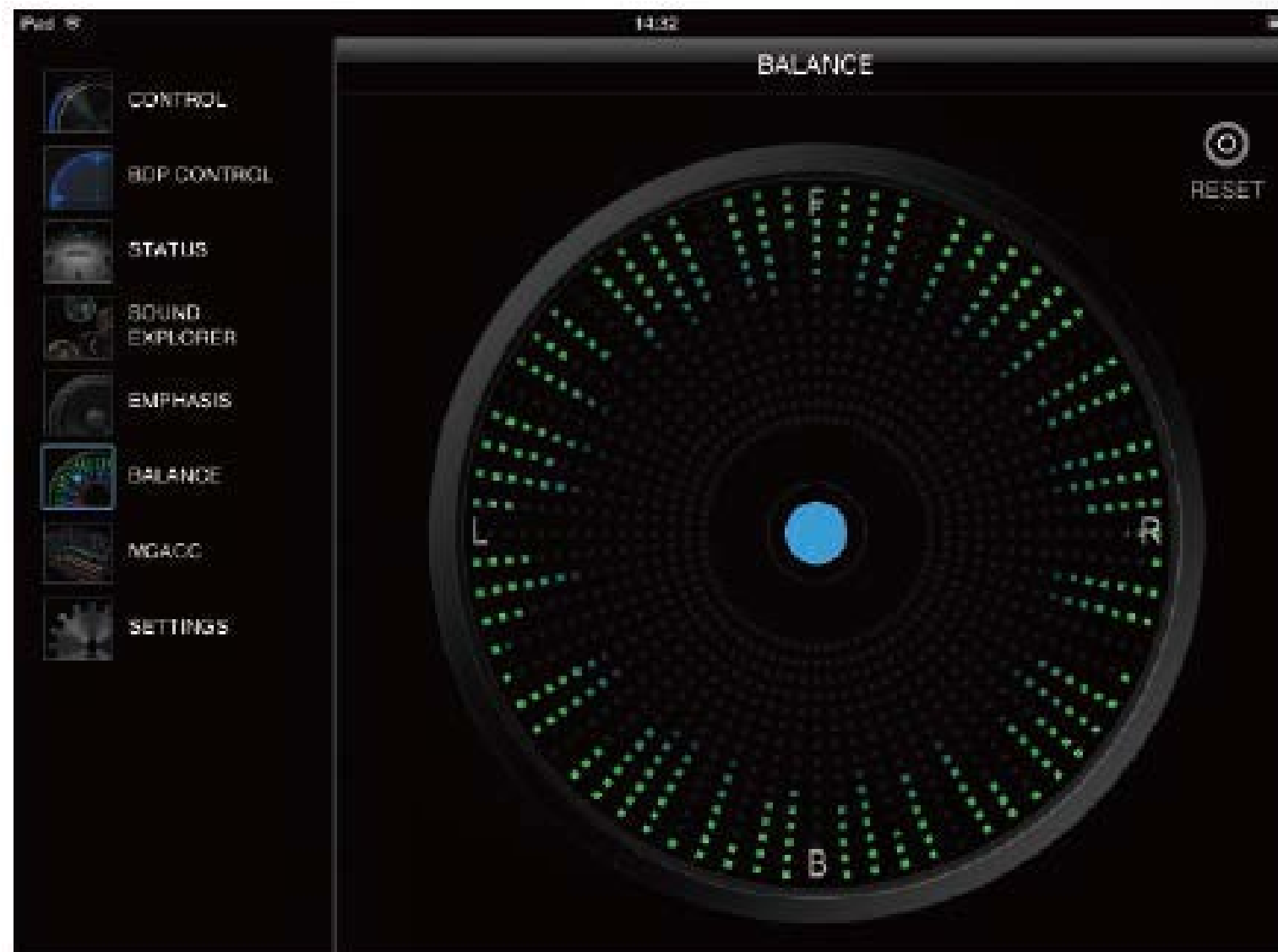




Advanced Control

The availabilities of the models differ depending on region.

Free iPod touch/iPhone/iPad/Android remote control app



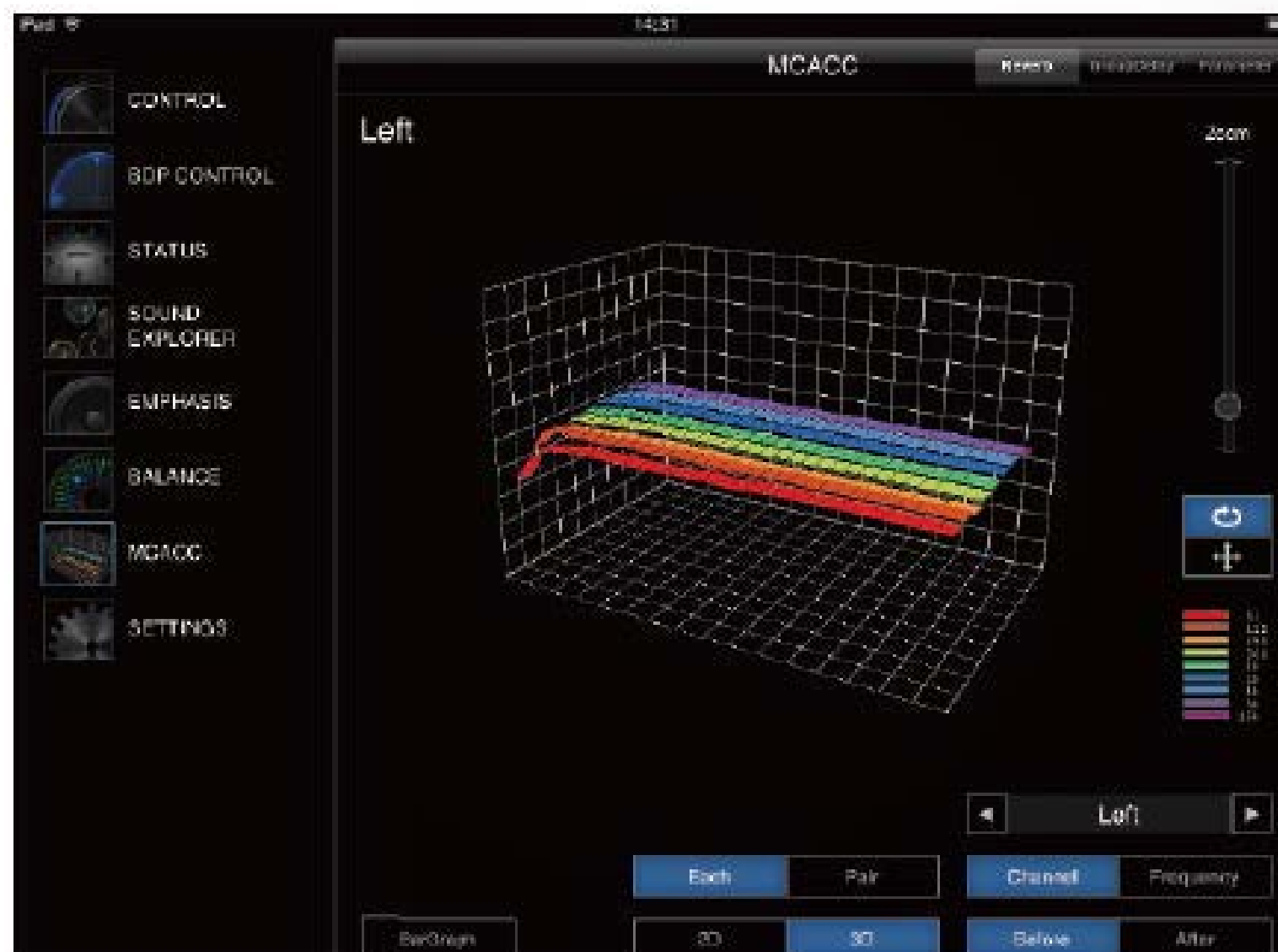
Balance



Control

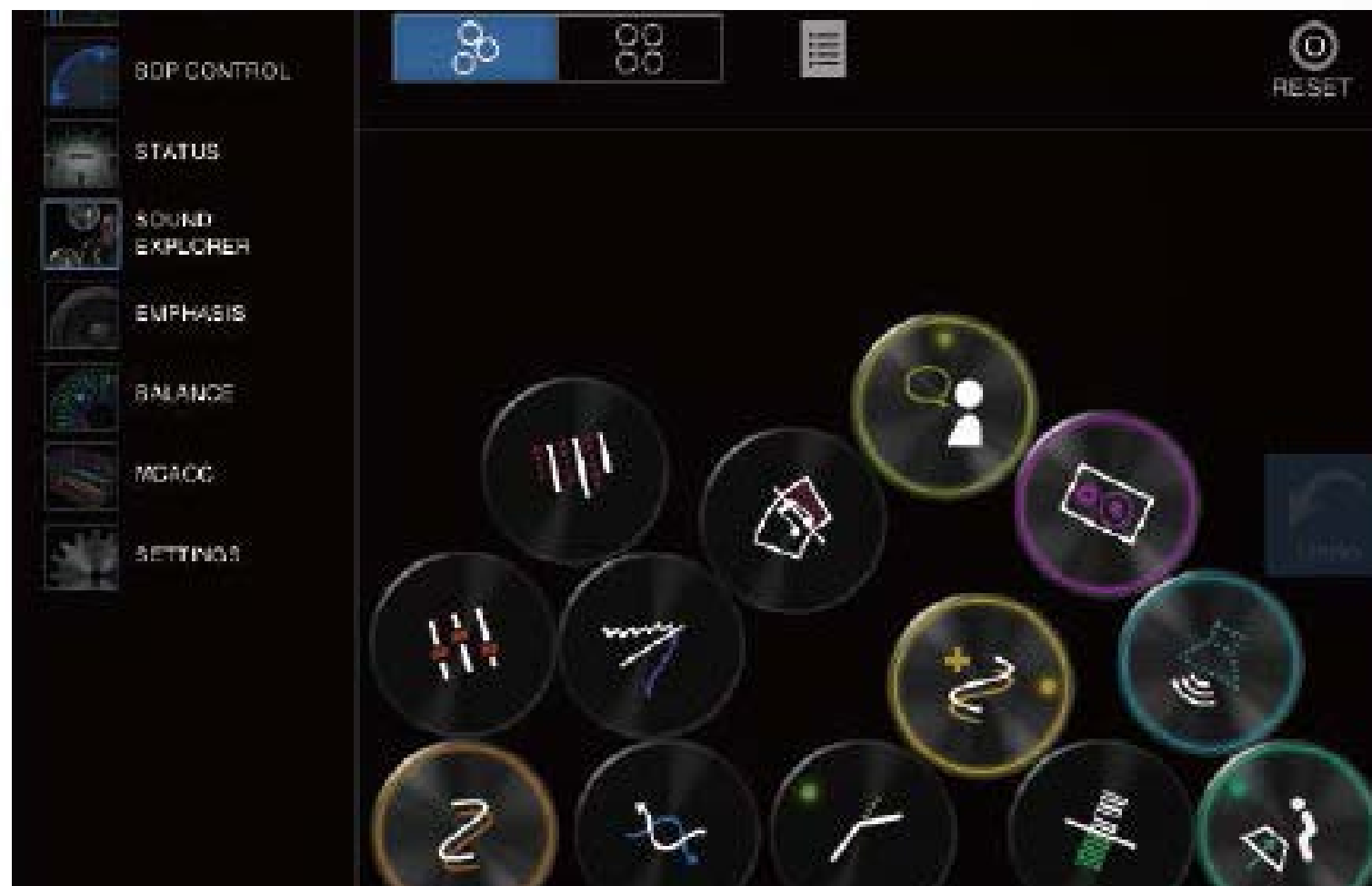


Finger EQ

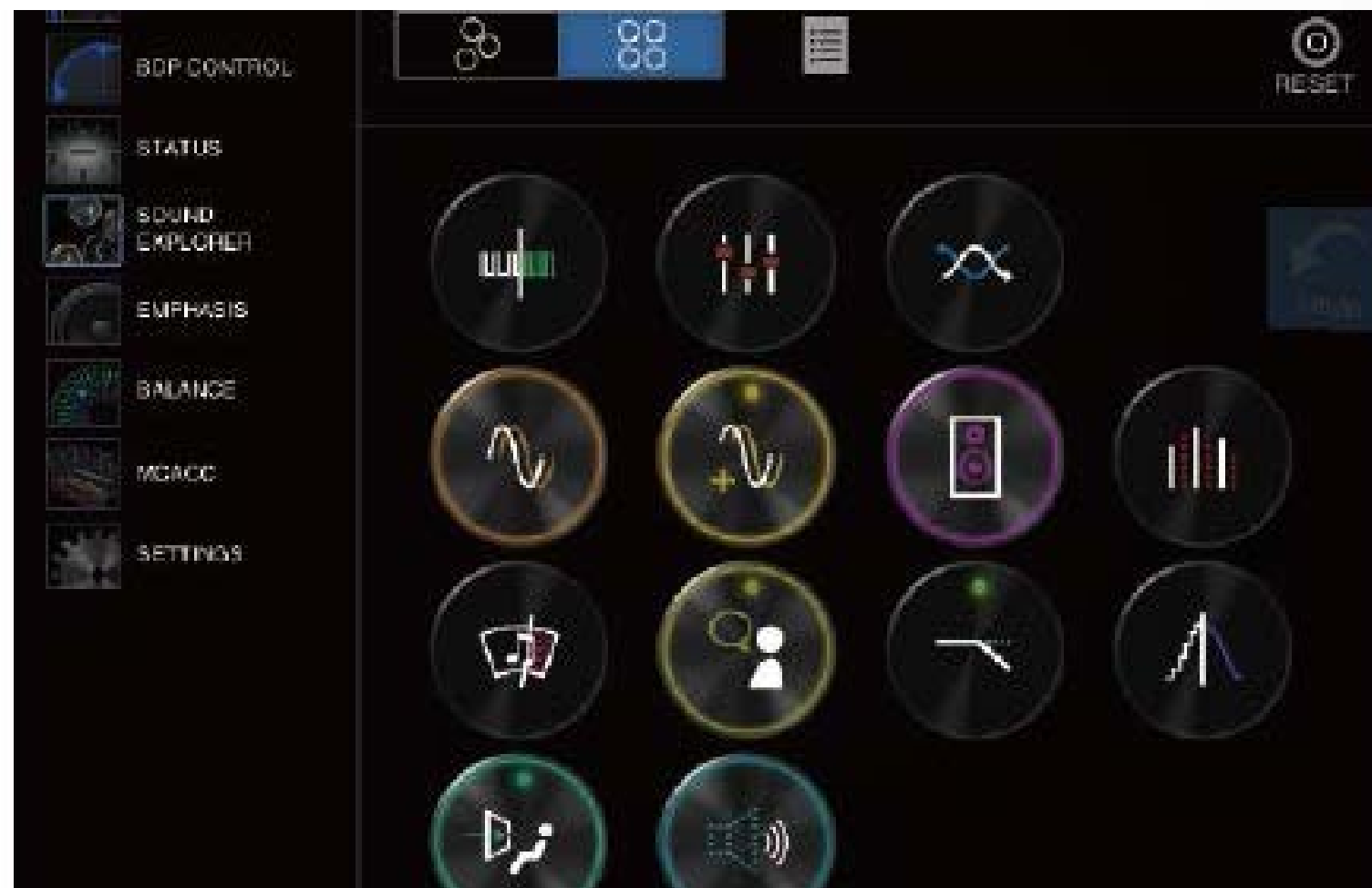


MCACC

The new Sound Explorer option lets you easily adjust and discover the various sound parameters.



Sound Explorer Drop Icon Mode

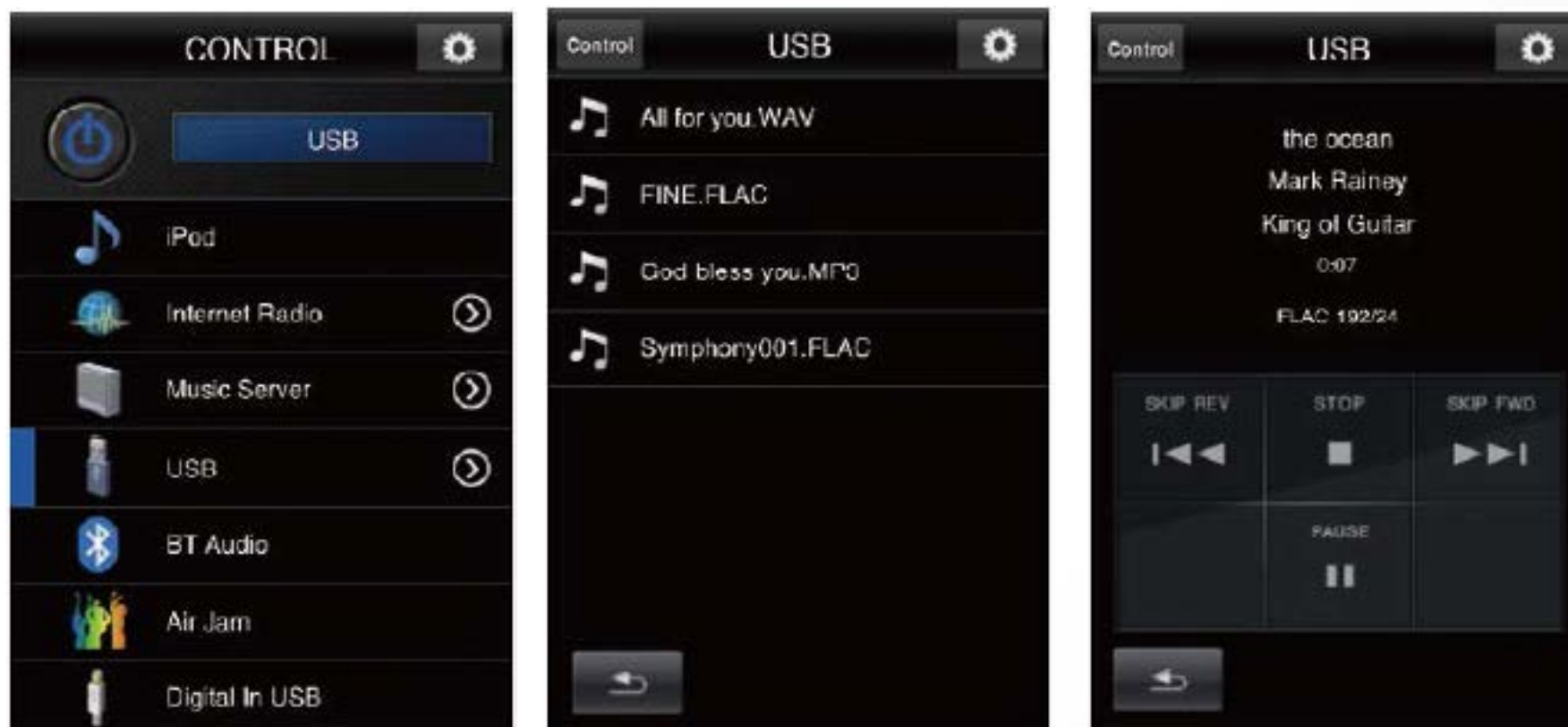


Sound Explorer Fixed Position Mode



Sound Explorer Settings

Free iPod touch/iPhone/iPad/Android remote control app



AS-BT200 Optional Bluetooth Adapter

- A2DP (Advanced Audio Distribution Profile)
- AVRCP (Audio Video Remote Control Profile)
- Registers up to 8 devices



Bluetooth Adapter



+



Transmits music data from portable devices



 **Bluetooth®**

Bluetooth featured products

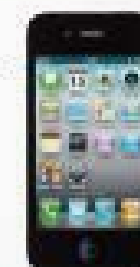
Cell phone



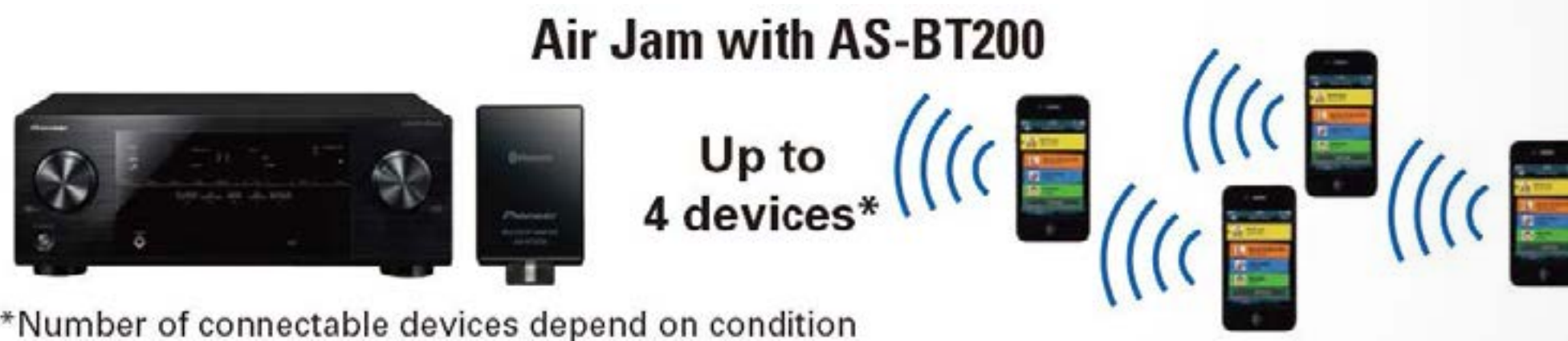
PC



iPhone/
iPod touch/
iPad



Air Jam application lets you stream music from up to four devices.

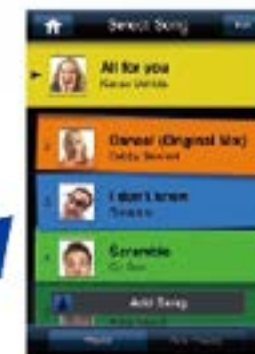


Air Jam

iPhone/iPod touch/iPad
Android Smartphone/Tablet

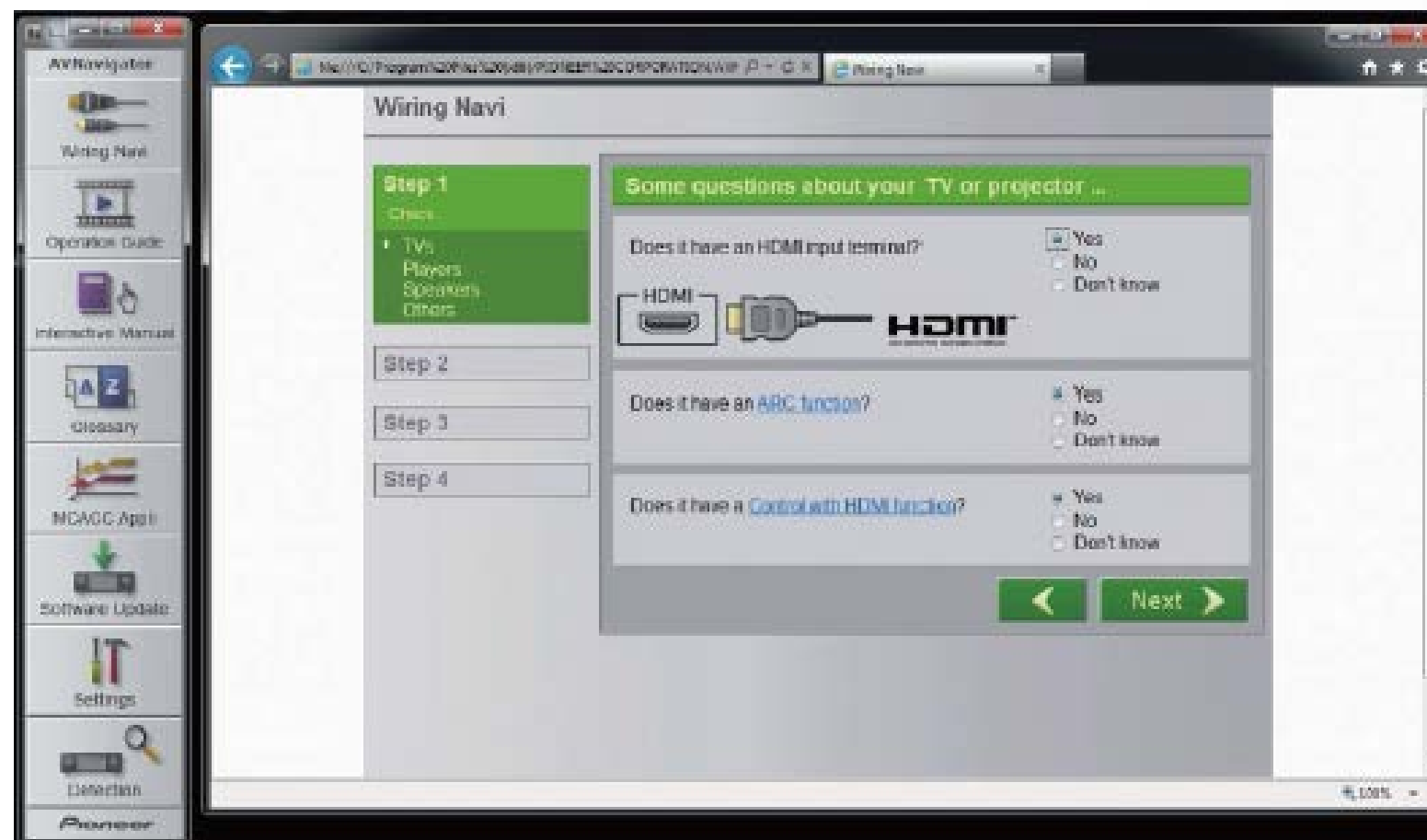
Air Jam App
Top Menu

Select Song



Entry Log

By answering questions about your equipment and terminals, the actual connection image will be displayed.





The interactive HTML manual can be browsed on your PC,
and clicking on a keyword will send a command to the AV receiver.



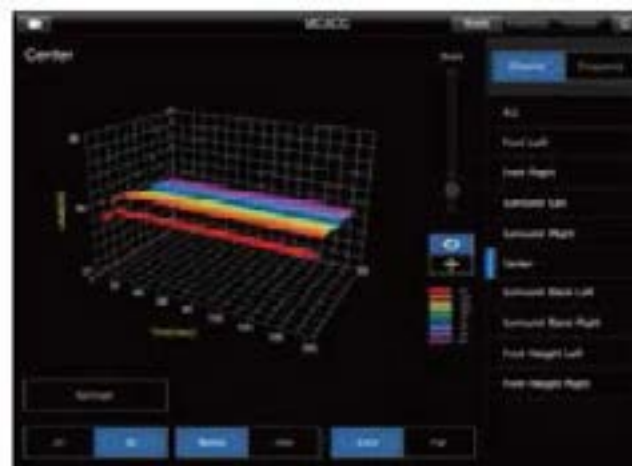




Menu



Wiring Navi



MCACC Measurement Data



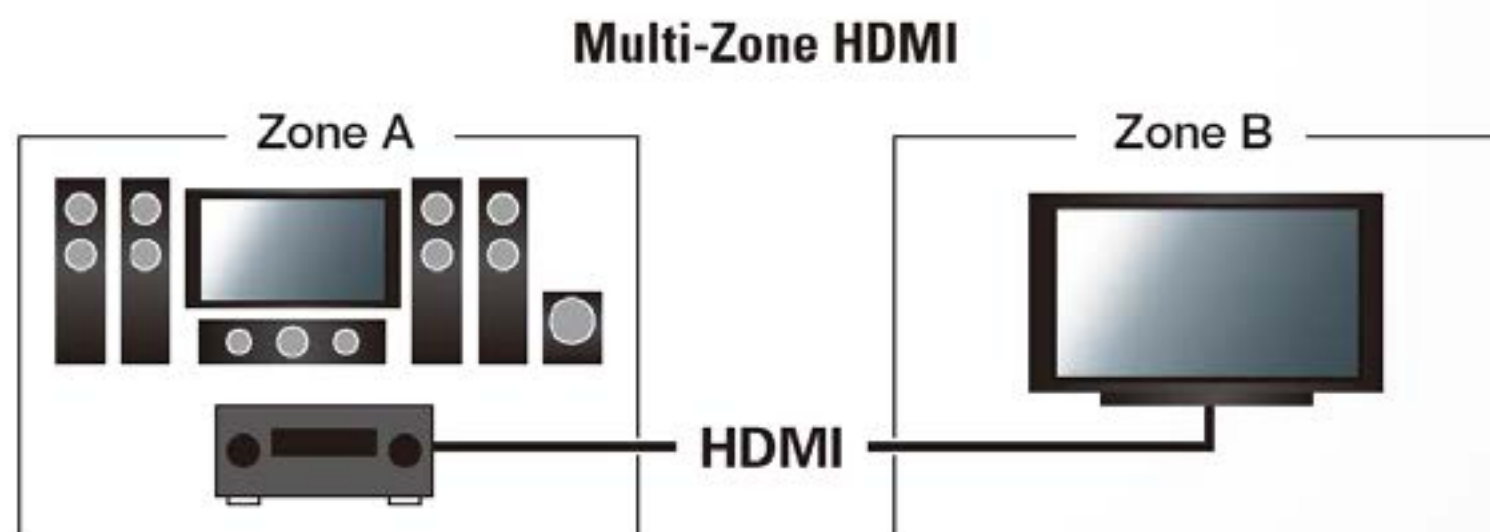
Instruction Manual

With the optional AS-WL300 wireless LAN converter,
you can enjoy wireless LAN connection for the AV receiver.

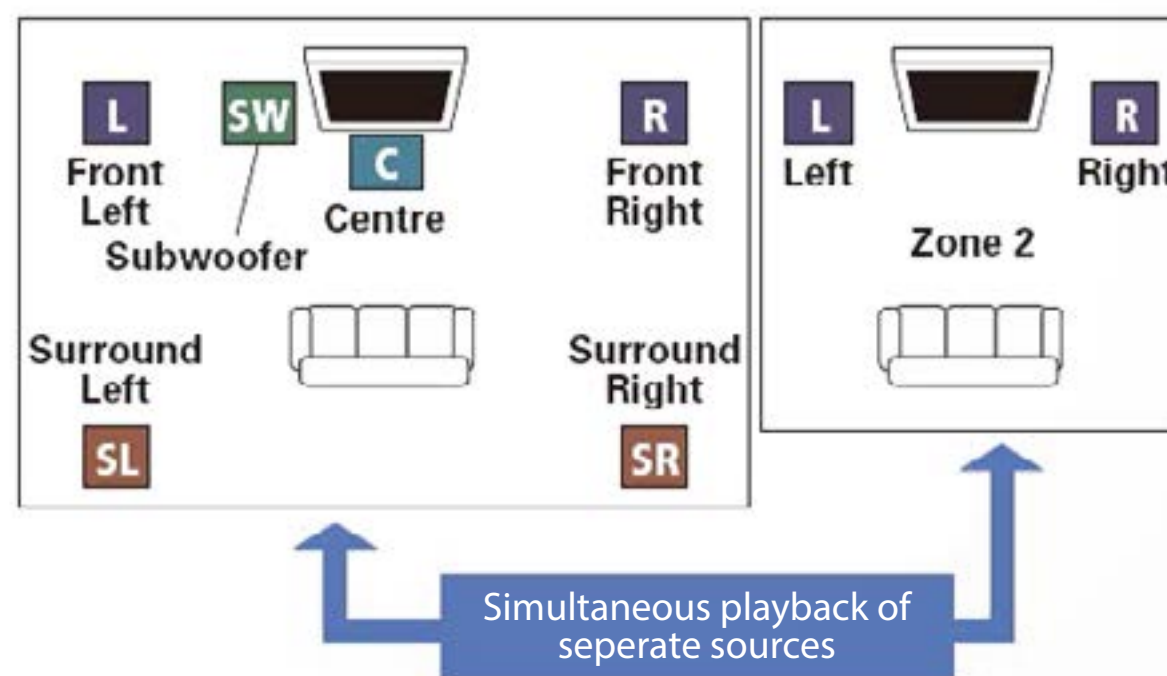


AS-WL300

With Pioneer's HDMI Zone Out, you can stream HD audio/video content to a separate room. If unused for HDZONE, the terminal can be used for MAIN ZONE OUT 2.



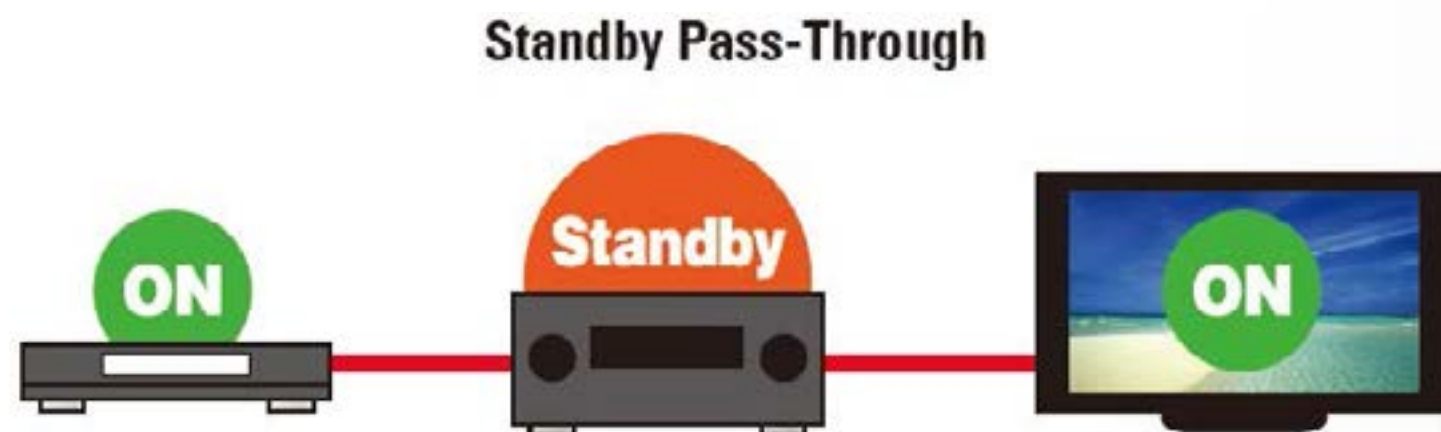
With Pioneer's Multi-Zone, you can play music and movies from different sources in two zones at the same time.



Multi-Zone (ZONE2)

- Volume adjustment/mute of AV receiver via TV
- Automatic input change when TV channel is switched or playback starts on a player
- Linked power on/off with TV

With standby pass-through, the AV receiver can pass audio and video signals via HDMI even during standby.



Standby Pass-through

Pioneer

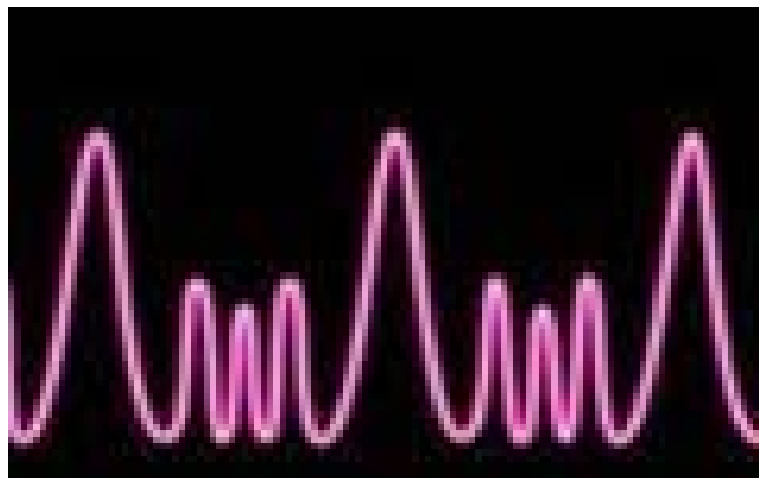


ECO friendly

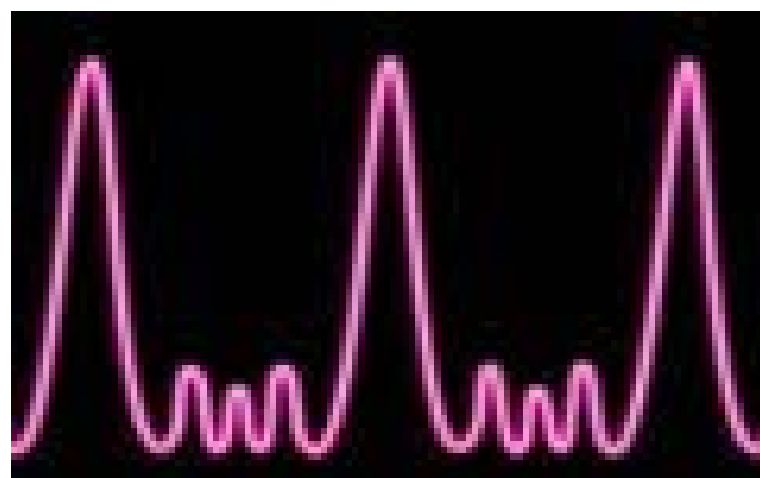


The availabilities of the models differ depending on region.

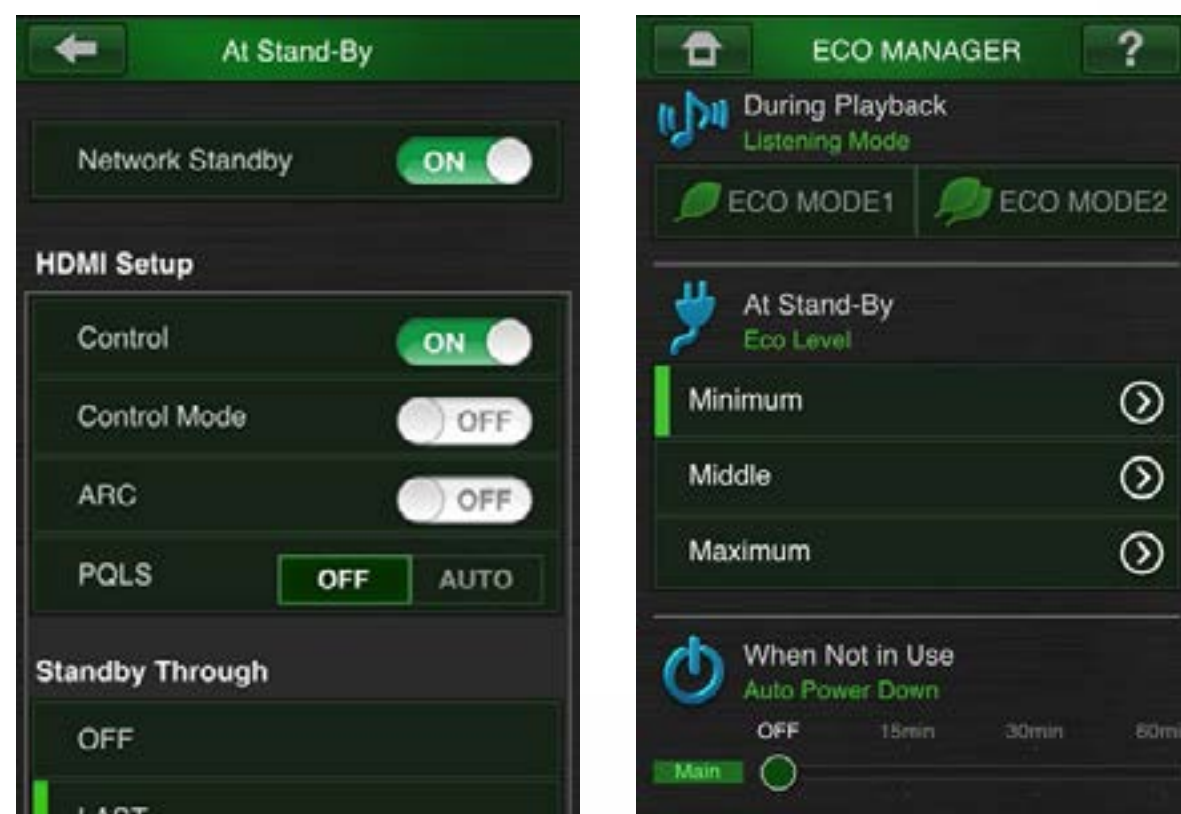
- ECO Mode 1 features moderate energy saving operation while maintaining high-quality sound, ideal for CD music.
- 20% power reduction compared with normal surround mode.



- ECO Mode 2 features moderate sound quality, suitable for content with dynamic sound such as movies (multi-channel/2channel) or live concerts.
- 50% power reduction compared with general analogue AMP.



The ECO Manager option in iControlAV2013 lets you manage all the ECO settings from your smart device.



Pioneer

Pioneer VSX AV Receivers 2013

End

